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5. Summary of Available Flood Infrastructure Information (58 Maps)

Attachment D
Summary of Exposure and Infrastructure
Inventory by County

September 2013



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STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



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County	#	County	#	County	#	County	#
Alameda County	D-1 D-2	Lake County	D-33 D-44	Riverside County	D-65 D-66	Sonoma County	D-97 D-98
Alpine County	D-3 D-4	Lassen County	D-35 D-36	Sacramento County	D-67 D-68	Stanislaus County	D-99 D-100
Amador County	D-5 D-6	Los Angeles County	D-37 D-38	San Benito County	D-69 D-70	Sutter	D-101 D-102
Butte County	D-7 D-8	Madera County	D-39 D-40	San Bernardino County	D-71 D-72	Tehama County	D-103 D-104
Calaveras County	D-9 D-10	Marin County	D-41 D-42	San Diego County	D-73 D-74	Trinity County	D-105 D-106
Colusa County	D-11 D-12	Mariposa County	D-43 D-44	San Francisco County	D-75 D-76	Tulare County	D-107 D-108
Contra Costa County	D-13 D-14	Mendocino County	D-45 D-46	San Joaquin County	D-77 D-78	Tuolumne County	D-109 D-110
Del Norte County	D-15 D-16	Merced County	D-47 D-48	San Luis Obispo County	D-79 D-80	Ventura County	D-111 D-112
El Dorado County	D-17 D-18	Modoc County	D-49 D-50	San Mateo County	D-81 D-82	Yolo County	D-113 D-114
Fresno County	D-19 D-20	Mono County	D-51 D-52	Santa Barbara County	D-83 D-84	Yuba County	D-115 D-116
Glenn County	D-21 D-22	Monterey County	D-53 D-54	Santa Clara County	D-85 D-86		
Humboldt County	D-23 D-24	Napa County	D-55 D-56	Santa Cruz County	D-87 D-88		
Imperial County	D-25 D-26	Nevada County	D-57 D-58	Shasta County	D-89 D-90		
Inyo County	D-27 D-28	Orange County	D-59 D-60	Sierra County	D-91 D-92		
Kern County	D-29 D-30	Placer County	D-61 D-62	Siskiyou County	D-93 D-94		
Kings County	D-31 D-32	Plumas County	D-63 D-64	Solano County	D-95 D-96		

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Attachment D
Summary of Exposure and Infrastructure
Inventory by County

September 2013

Table of Contents

Map Contents & Sources of Information

1. Summary of Available Flood Types, Flood History, and Flood Hazard Exposure

100-year and 500-year Floodplains – The displayed floodplains were compiled for the SFMP from the following three sources (500-year floodplains were not available for some remote areas of the State):

1. The CVFPP floodplains, as defined by the CVFPP on October 4, 2011, for the Yolo, East Side, Upper Sacramento, Mariposa, Sutter, and Tisdale bypasses;
2. Floodplains defined (or refined) by USACE flood maps based on ER 1105-2-101 standards;
3. FEMA Flood Insurance Rate Maps (FIRMs).

History of Flooding by Event Year – This is a chronological list of floods of record affecting the county. When available, additional details include dates, flood name, and streams or regions affected. Sources include Agency Interviews, County Hazard Mitigation Plans, the California Water Plan 2009, Alluvial Fan Task Force Study Area Flood History, Taming Natural Disasters Appendix D, and various storm reports.

Types of Flooding – This is a list of common and possible types of flooding within the county.

Flood Hazard Exposure – This is a list of county statistics for land area, population, and structures based on the 2000 census. The quantity and percentage of area, population, structure and land values, and other important facilities exposed to the 100-year and 500-year flood events are also listed. Exposure numbers for acreage are rounded to the nearest 100 acres except where the number is smaller than 100. In such cases, they are rounded to the nearest 10 acres for values between between 10 and 100, and to the nearest 1 acre for values between 1 and 10.

Notes: Based on the source information, no 100-year or 500-year floodplain exists in Alpine County. The San Francisco County floodplain delineation was still in progress at the time it was obtained in the Fall of 2011.

Floodplain delineation in the vicinity of water bodies varies by county. In some counties the floodplain covers the entire body of water, while others include only a buffer along the shoreline. For the purposes of the enclosed maps, lakes and coastal bay layers have been shown on top of the delineated floodplain. Floodplains may have discontinuities at county boundaries.

Disclaimers

1. Information displayed on the maps does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown.
2. The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

2. Summary of Available Flood Infrastructure Information

Summary of Available Flood Infrastructure Information – This is a graphic display of the entire county showing existing flood infrastructure that has been mapped and made available in a Geographic Information System (GIS) format. Note that some of the counties were oriented differently to maximize the size of the county on the map. The following additional information and a legend of corresponding symbols is also provided on the flood infrastructure maps:

- 1. Flood Infrastructure GIS Data Received from Agencies** – Infrastructure data provided by local agencies in GIS compatible formats (shapefile and geodatabase) is shown on the maps for the respective counties and is listed with the corresponding map symbol.
- 2. Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted** – Infrastructure data provided by local agencies is listed for informational purposes only. This data is not displayed graphically on the maps.
- 3. Agencies Contacted as Part of SFMP** – This is a list of those agencies contacted by the information gathering teams.
- 4. Statewide GIS Data** – A legend of available statewide GIS data is provided at the bottom of each map. Statewide GIS Data sources include:
 - Cities derived from California Department of Forestry and Fire Protection (CAL FIRE) Incorporated Cities polygons, 2010.
 - Populated Places from Geographic Names Information System (GNIS), US Board on Geographic Names, USGS, 2011.
 - Dams modified from DWR, Bulletin 17-00, 2000. Not all dams are necessarily flood infrastructure as that information is not provided specifically in the Bulletin.
 - Pump Stations and Levees from California Levee Database (CLD), v2.2 r2, 2010.
 - NFHL Dam or Weir, Levee, Flood Event Structure, Channel, Control Structure, Dike and Retaining Wall are from the National Flood Hazard Layer, FEMA, July 2011 or from preliminary countywide DFIRM databases.
 - Rivers and Lakes, modified from Department of Fish Game (DFG) in 2009, previously downloaded from CalAtlas, original publication date not available.
 - Counties and Hillshade from CalAtlas 2009.
 - Highways from TeleAtlas, 2004.

Planned Projects – The planned projects represent information gathered from local, State, and Federal agencies for Federal Fiscal Year 2012. A number of the identified projects do not have cost associated with them.

Definitions/Acronyms

California Levee Database (CLD): The CLD contains data about the centerline of an embankment for controlling rivers, coastal areas, or other water bodies. In creating the CLD, all structures that could hold back water were digitized for flood planning purposes. Some of these structures are not technically levees (such as railroad grades, irrigation canals, etc.). However the information necessary to distinguish these features from actual "levees" is not completely present in the CLD. DWR makes no warranties, representations or guarantees, either expressed or implied, as to the completeness, accuracy or correctness of the data, nor accepts or assumes any liability arising from or for any incorrect, incomplete or misleading data provided pursuant to this request.

National Flood Hazard Layer (NFHL): The NFHL is a computer database that contains the flood hazard map information from FEMA's Flood Map Modernization program. These map data are from Digital Flood Insurance Rate Map (DFIRM) databases and Letters of Map Revision (LOMRs). Relevant NFHL flood infrastructure that was not submitted by a local agency and is not included in the CLD or listed in DWR Bulletin 17-00, 2000, is displayed on the maps and legend.

DWR Local Agency Dam: Those dams listed in DWR Bulletin 17-00, 2000, where the maintaining agency listed is one of the agencies contacted during the SFMP information collection efforts.

DWR Other Dam: All other dams listed in DWR Bulletin 17-00, 2000, which are not maintained by one of the agencies contacted during the SFMP information collection efforts.

CLD Local Agency Levee: Those levees within the CLD where the "maintaining agency" attribute is one of the agencies contacted during the SFMP information collection efforts. Note: only approximately 23% of the CLD levee lines have a populated "maintaining agency" attribute.

CLD Other Levee: All other levees in the CLD that either do not have a maintaining agency listed, or the listed agency is not one of the agencies contacted during the SFMP information collection efforts.

County Maps:

1. Summary of Available Flood Types, Flood History, and Flood Hazard Exposure (58 Maps)
2. Summary of Available Flood Infrastructure Information (58 Maps)

Attachment D Summary of Exposure and Infrastructure Inventory by County

September 2013



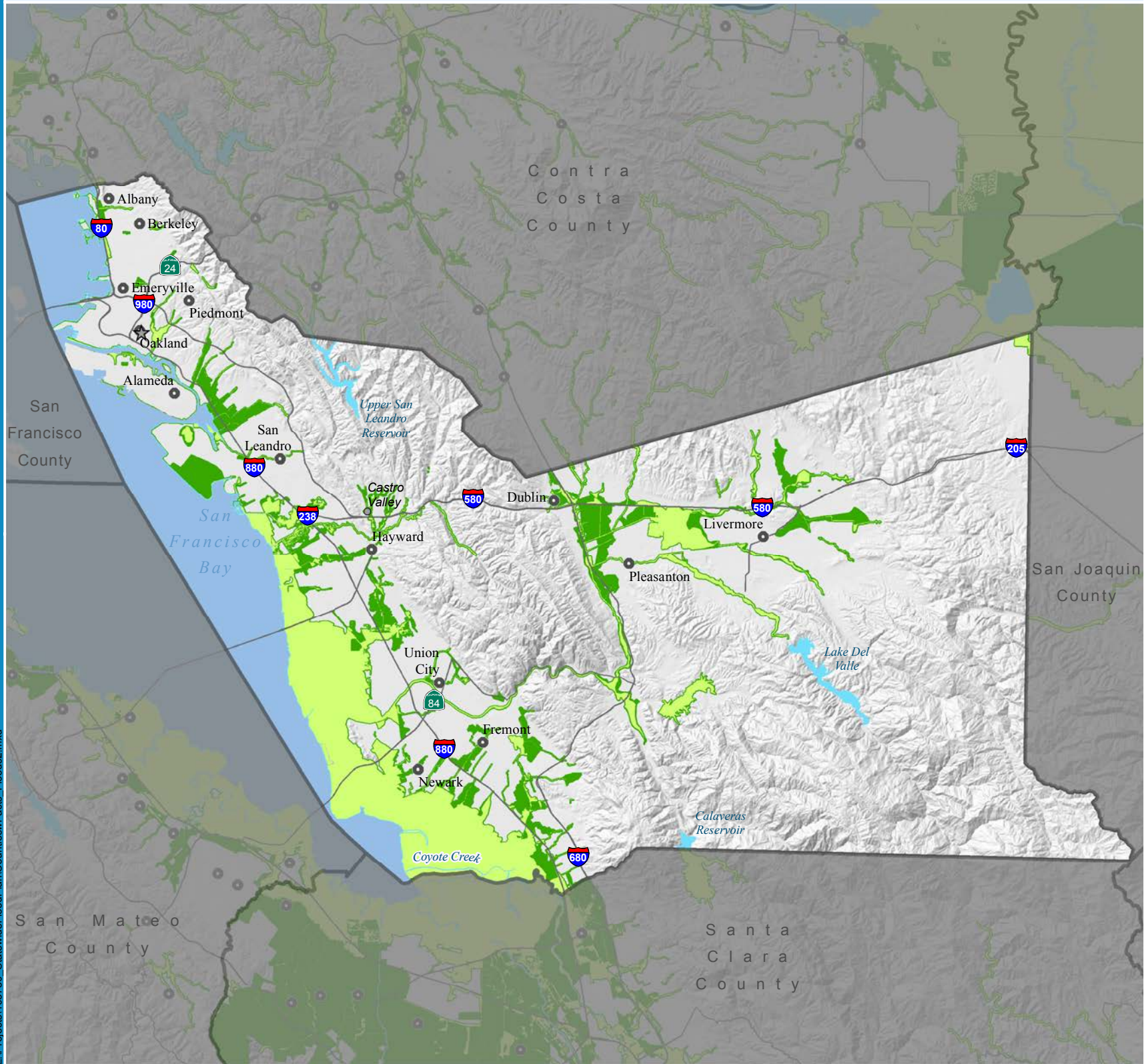
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STATEWIDE FLOOD
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100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1798-1799 Winter
- 1819 Winter
- 1861-1862 Winter, The Great Flood
- 1913-1914 Winter
- 1937-1938 Winter, Great Flood
- 1950 December
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Winter/Spring
- 1964-1965 Winter, Christmas 1964 Disaster
- 1968-1969 Winter 1968-1969 Storms
- 1973 Winter
- 1981-1982 Winter/Spring Storms
- 1982-1983 Winter/Spring, Winter Storms
- 1983 December
- 1995-1996 Winter, 1995 Christmas Floods
- 1996-1997 Winter, January 1997 Floods
- 1998 Winter, El Niño Floods
- 2005-2006 Winter, New Year's Eve Flood of 2006
- 2006 2006 Spring Storms
- 2011 March

Flood Hazard Exposure

County Statistics	
Total Acreage:	525,300
Total Population:	1.4 mil
Total Structures:	427,100
Total Depreciated Replacement Value of Structures and Contents:	\$140.0 billion
Total Crop Acreage:	10,600
Total Value of Crops:	\$3.4 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	45,800	60,200
Percent of Area Exposed:	9%	11%
Population Exposed:	33,000	126,600
Percent of Population Exposed:	2%	9%
Structures Exposed:	10,100	36,500
Depreciated Replacement Value of Structures and Contents Exposed:	\$5.6 billion	\$16.7 billion
Crops Exposed (acres):	1,000	1,400
Value of Crops Exposed:	\$290,800	\$447,000
Department of Defense Facilities Exposed:	3	3
Essential Facilities Exposed:	8	45
High Potential Loss Facilities Exposed:	6	42
Lifeline Utilities Exposed:	6	7
Transportation Facilities Exposed:	43	113
Transportation Segments Exposed (miles):	48	99
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	29	29
Total Sensitive Animal Species Exposed:	45	45

Types of Flooding

- | Likely: | Present: |
|-------------|------------------------------|
| Debris Flow | Coastal |
| Flash | Engineered Structure Failure |
| Slow Rise | |
| Stormwater | |

Hydrologic Regions

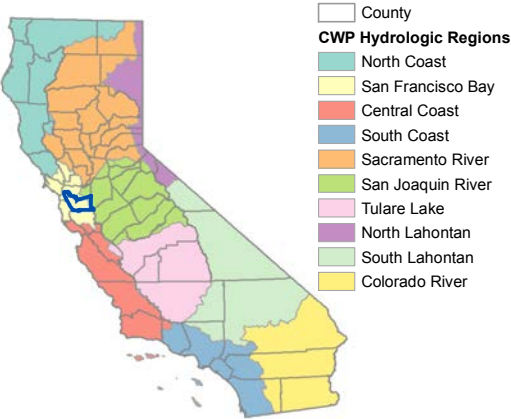


Figure D-1
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Alameda County.



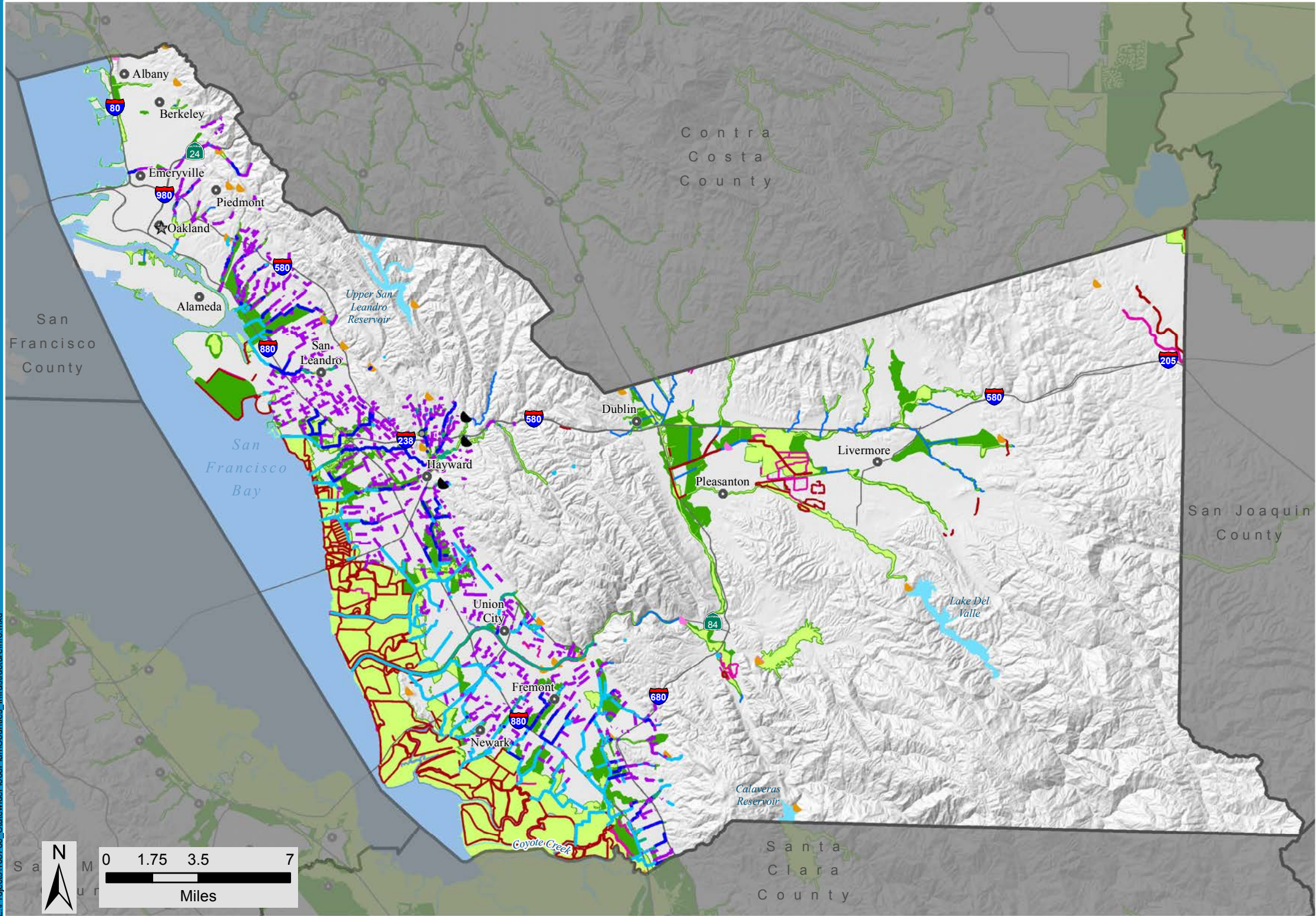
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DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Alameda County



Flood Infrastructure GIS Data Received from Agencies Contacted:

- Flood Control Facility
 - Closed Conduit
 - Concrete Channel
 - Earth Channel
 - Improved Creek
 - Spillway

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

- Levee
- Channel
- Pump Station
- Detention Basin

Agencies Contacted as Part of SFMP:

- Alameda County – Zone 7
- Alameda County Flood Control and Water Conservation District

Planned Projects:

Number of Local Projects:	20
Estimated Cost of Local Projects:	\$613.3 million
Number of USACE Projects:	3
Estimated Cost of USACE Projects:	\$38.2 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bulletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-2
Summary of Available Flood Infrastructure Information, Alameda County

September 2013



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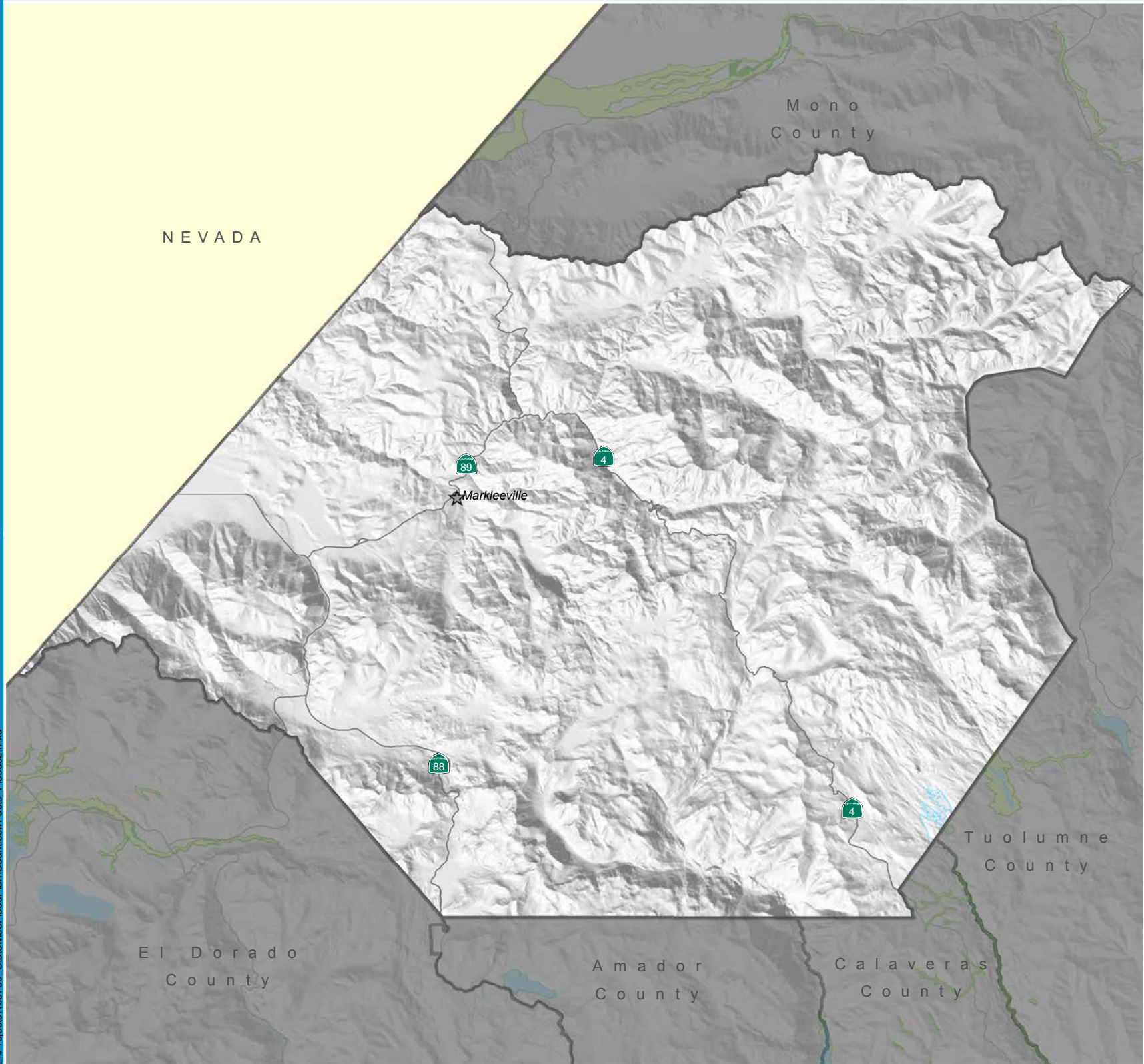
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM



- Statewide GIS Data:**
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

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100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1852 December
- 1861-1862 Winter, The Great Flood
- 1928 March 24-30
- 1937-1938 Winter, Great Flood
- 1942 Winter
- 1950 Winter
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Winter/Spring
- 1962-1963 Winter
- 1964-1965 Winter, Christmas 1964 Disaster
- 1966-1967 Winter/Spring
- 1968-1969 Winter 1968-1969 Storms
- 1982-1983 Winter/Spring, Winter Storms
- 1986 Winter, St. Valentine's Day Storm
- 1992-1993 Winter Storms
- 1993 Winter Storms
- 1995 Winter Storms
- 1996-1997 Winter, January 1997 Floods
- 2005-2006 Winter, New Year's Eve Flood of 2006
- 2006 Spring Storms

Flood Hazard Exposure

County Statistics	
Total Acreage:	474,300
Total Population:	1,200
Total Structures:	1,400
Total Depreciated Replacement Value of Structures and Contents:	\$243.5 million
Total Crop Acreage:	4,200
Total Value of Crops:	\$134,900

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	0	0
Percent of Area Exposed:	0%	0%
Population Exposed:	0	0
Percent of Population Exposed:	0%	0%
Structures Exposed:	0	0
Depreciated Replacement Value of Structures and Contents Exposed:	n/a	n/a
Crops Exposed (acres):	0	0
Value of Crops Exposed:	n/a	n/a
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	0	0
High Potential Loss Facilities Exposed:	0	0
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	0	0
Transportation Segments Exposed (miles):	0	0
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	0	0
Total Sensitive Animal Species Exposed:	0	0

Alpine County

Types of Flooding

- | | |
|------------|------------------------------|
| Likely: | Present: |
| Flash | Debris Flow |
| Slow Rise | Engineered Structure Failure |
| Stormwater | |

Hydrologic Regions

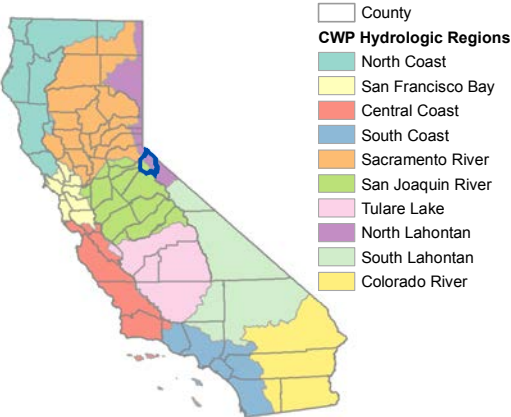


Figure D-3
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Alpine County.

September 2013



DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Alpine County

Flood Infrastructure GIS Data Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:
Alpine County

NOTE: Based on the source information, no 100-year or 500-year floodplain exists in Alpine County.

Planned Projects:
Number of Local Projects: 1
Estimated Cost of Local Projects: \$220,700
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

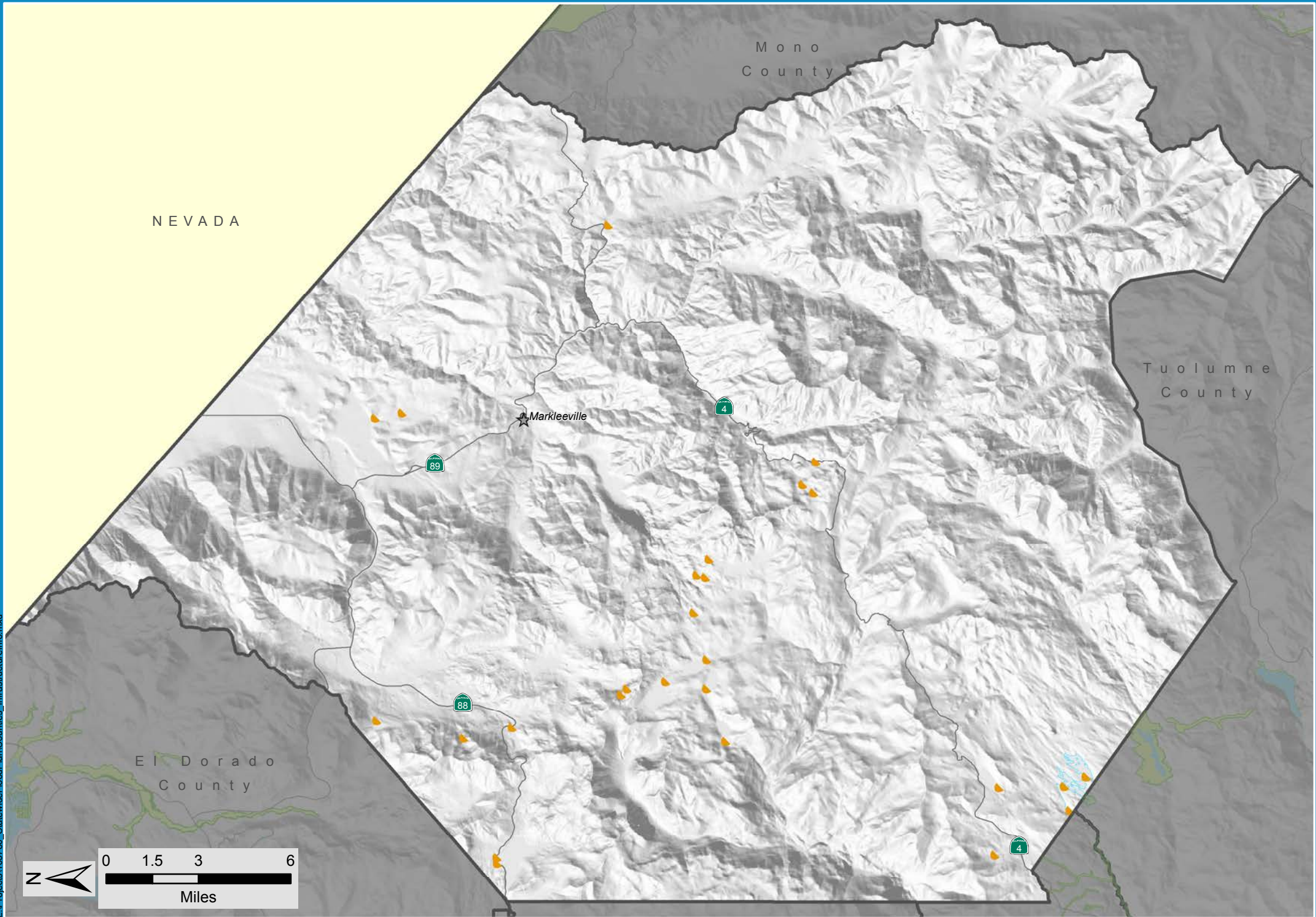
Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-4
Summary of Available Flood Infrastructure Information, Alpine County

September 2013



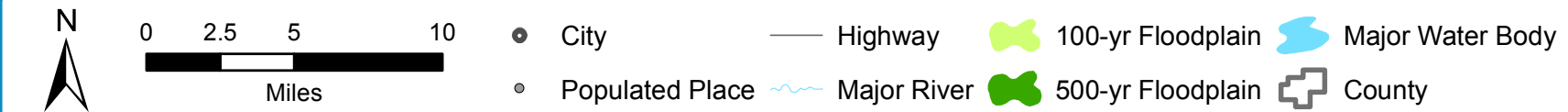
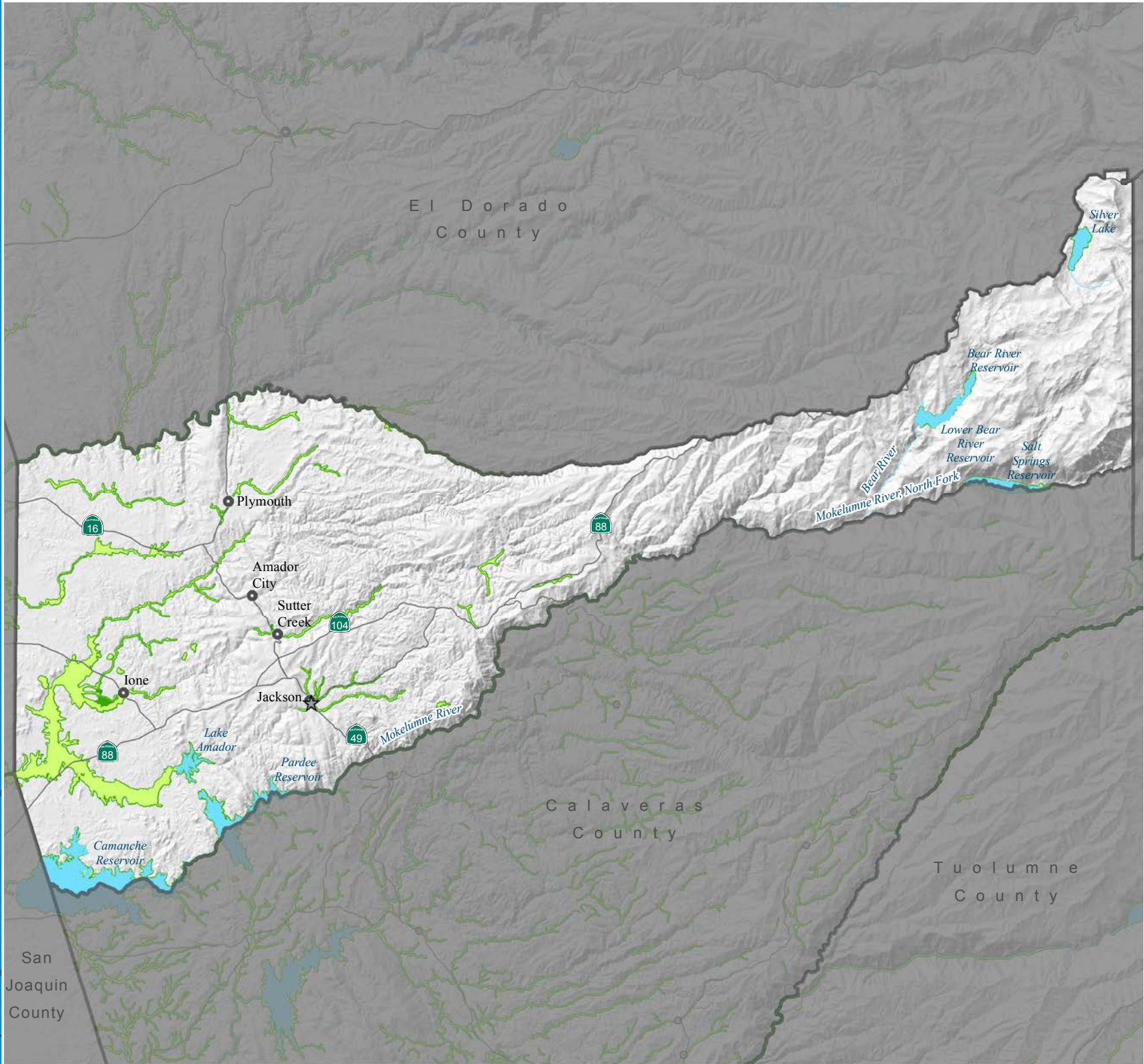
Alpine County



- Statewide GIS Data:
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

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100-year and 500-year Floodplains



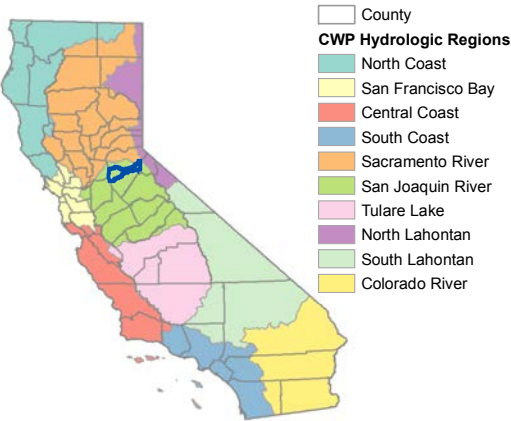
Selected Flood Events by Event Year

- 1849-1850
- 1852 March, The Great Flood of 1852
- 1861-1862 Winter, The Great Flood
- 1907 March, The Great Lone Flood
- 1950 Winter
- 1955-1956 Winter, 1955 Christmas Flood
- 1962-1963 Winter
- 1964-1965 Winter
- 1966-1967 Winter
- 1968-1969 Winter 1968-1969 Storms
- 1980 Winter
- 1982-1983 Winter/Spring, Winter Storms
- 1986 Winter, St. Valentine's Day Storm
- 1995-1996 Winter/Spring, 1995 Christmas Floods
- 1996-1997 Winter, January 1997 Floods
- 1999 February 9, 1999 Flash Flood
- 2000 January
- 2005-2006 Winter, New Year's Eve Flood of 2006
- 2006 2006 Spring Storms
- 2011 March

Types of Flooding

- | Likely: | Present: |
|------------|------------------------------|
| Flash | Debris Flow |
| Slow Rise | Engineered Structure Failure |
| Stormwater | |

Hydrologic Regions



Flood Hazard Exposure

County Statistics	
Total Acreage:	387,800
Total Population:	35,100
Total Structures:	16,700
Total Depreciated Replacement Value of Structures and Contents:	\$3.8 billion
Total Crop Acreage:	8,800
Total Value of Crops:	\$5.6 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	16,900	17,100
Percent of Area Exposed:	4%	4%
Population Exposed:	1,500	1,700
Percent of Population Exposed:	4%	5%
Structures Exposed:	700	800
Depreciated Replacement Value of Structures and Contents Exposed:	\$160.8 million	\$185.6 million
Crops Exposed (acres):	3,400	3,500
Value of Crops Exposed:	\$4.6 million	\$4.7 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	4	4
High Potential Loss Facilities Exposed:	6	6
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	16	16
Transportation Segments Exposed (miles):	9	9
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	5	5
Total Sensitive Animal Species Exposed:	12	12

Figure D-5
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Amador County.



Amador County

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DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Amador County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

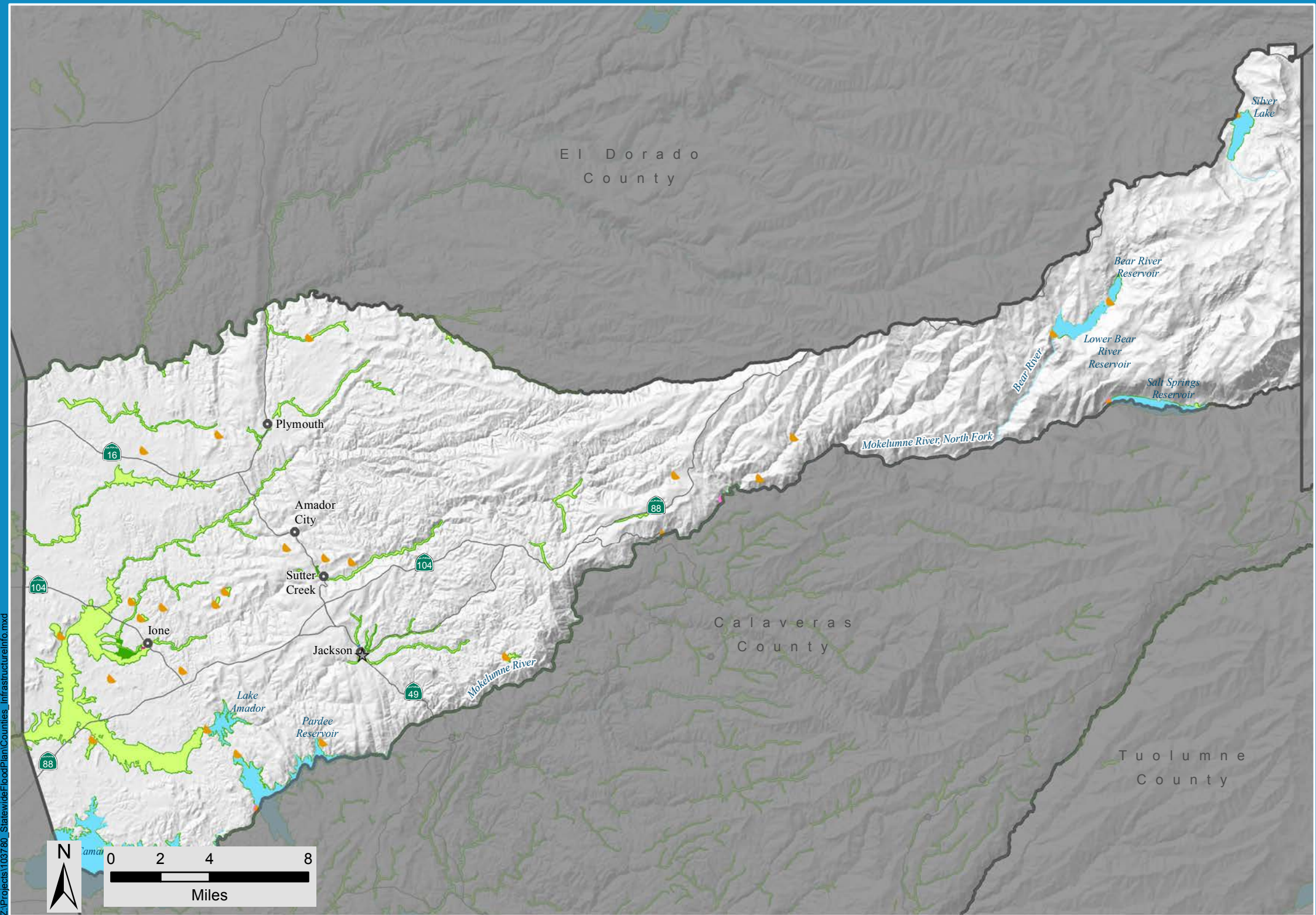
Agencies Contacted as Part of SFMP:
Amador County

Planned Projects:
Number of Local Projects: 5
Estimated Cost of Local Projects: \$85.1 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-6
Summary of Available Flood Infrastructure
Information, Amador County

September 2013



Statewide GIS Data:

City

Populated Place

DWR Local Agency Dam

DWR Other Dam

NFHL Dam or Weir

CLD Pump Station

CLD Local Agency Levee

CLD Other Levee

NFHL Levee

NFHL Flood Event Structure

NFHL Channel

NFHL Control Structure

NFHL Dike

NFHL Retaining Wall

Highway

Major River

Major Water Body

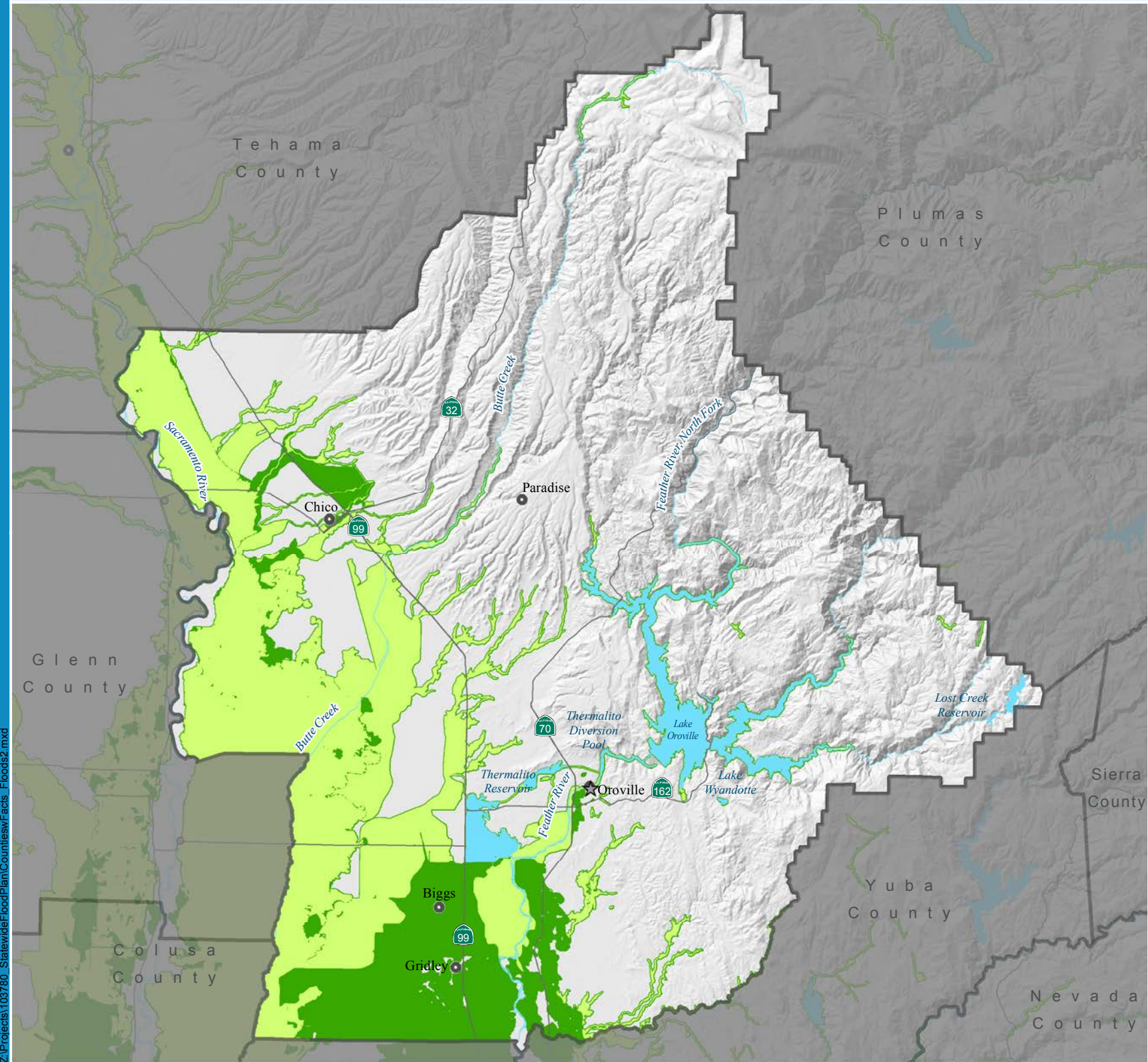
100-yr Floodplain

500-yr Floodplain

County

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100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1805 Central Valley
- 1825-1826
- 1861-1862 Winter, The Great Flood
- 1889-1890 Winter
- 1907 Winter
- 1937-1938 Winter, Great Flood
- 1964-1965 Winter, Christmas 1964 Disaster
- 1966-1967 Winter/Spring
- 1969-1970 Winter/Spring, Northern California Flooding
- 1974 Winter/Spring, 1974 Flood
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1995 Winter Storms
- 1996-1997 Winter, January 1997 Floods
- 1998 Winter/Spring, El Niño Floods
- 2005-2006 Winter Storms
- 2006 May 10
- 2008 January 5-14, 2008 Winter Storms
- 2008 October
- 2011 March

Flood Hazard Exposure

County Statistics	
Total Acreage:	1.1 million
Total Population:	203,200
Total Structures:	83,700
Total Depreciated Replacement Value of Structures and Contents:	\$16.8 billion
Total Crop Acreage:	223,900
Total Value of Crops:	\$340.7 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
	Area Exposed (acres):	198,800 271,300
	Percent of Area Exposed:	19% 25%
	Population Exposed:	13,700 52,000
	Percent of Population Exposed:	7% 26%
	Structures Exposed:	5,300 19,400
	Depreciated Replacement Value of Structures and Contents Exposed:	\$1.1 billion \$3.7 billion
	Crops Exposed (acres):	119,000 161,400
	Value of Crops Exposed:	\$146.9 million \$228.6 million
	Department of Defense Facilities Exposed:	0 0
	Essential Facilities Exposed:	3 35
	High Potential Loss Facilities Exposed:	2 5
	Lifeline Utilities Exposed:	2 4

Transportation Facilities Exposed:	174	250
Transportation Segments Exposed (miles):	46	92
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	33	37
Total Sensitive Animal Species Exposed:	35	35

Butte County

Types of Flooding

- | | |
|------------|------------------------------|
| Likely: | Present: |
| Flash | Alluvial Fan |
| Slow Rise | Debris Flow |
| Stormwater | Engineered Structure Failure |

Hydrologic Regions

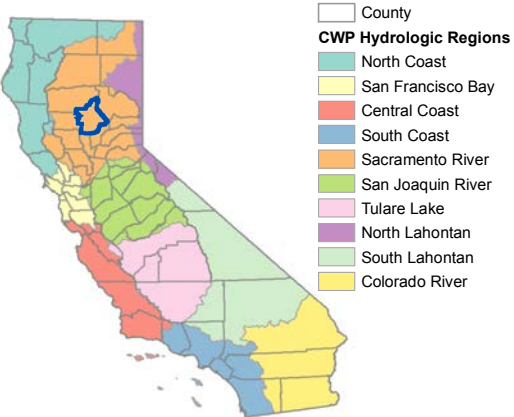


Figure D-7
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Butte County.

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Butte County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
Levee
Channel

Agencies Contacted as Part of SFMP:
Butte County Public Works
City of Chico
M & T Ranch
Reclamation District 10

Planned Projects:
Number of Local Projects: 2
Estimated Cost of Local Projects: \$177.5 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none
Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-8
Summary of Available Flood Infrastructure Information, Butte County

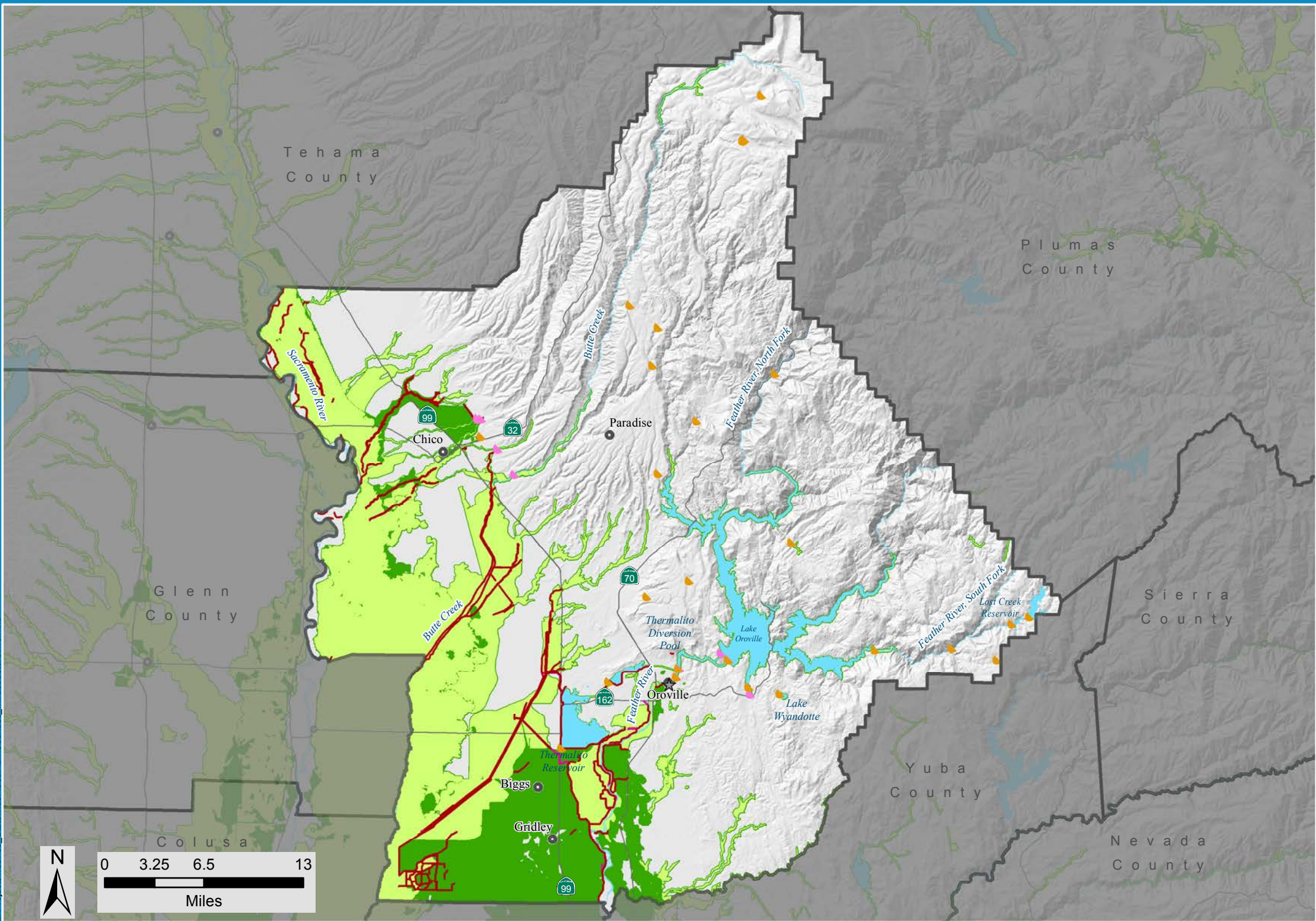
September 2013



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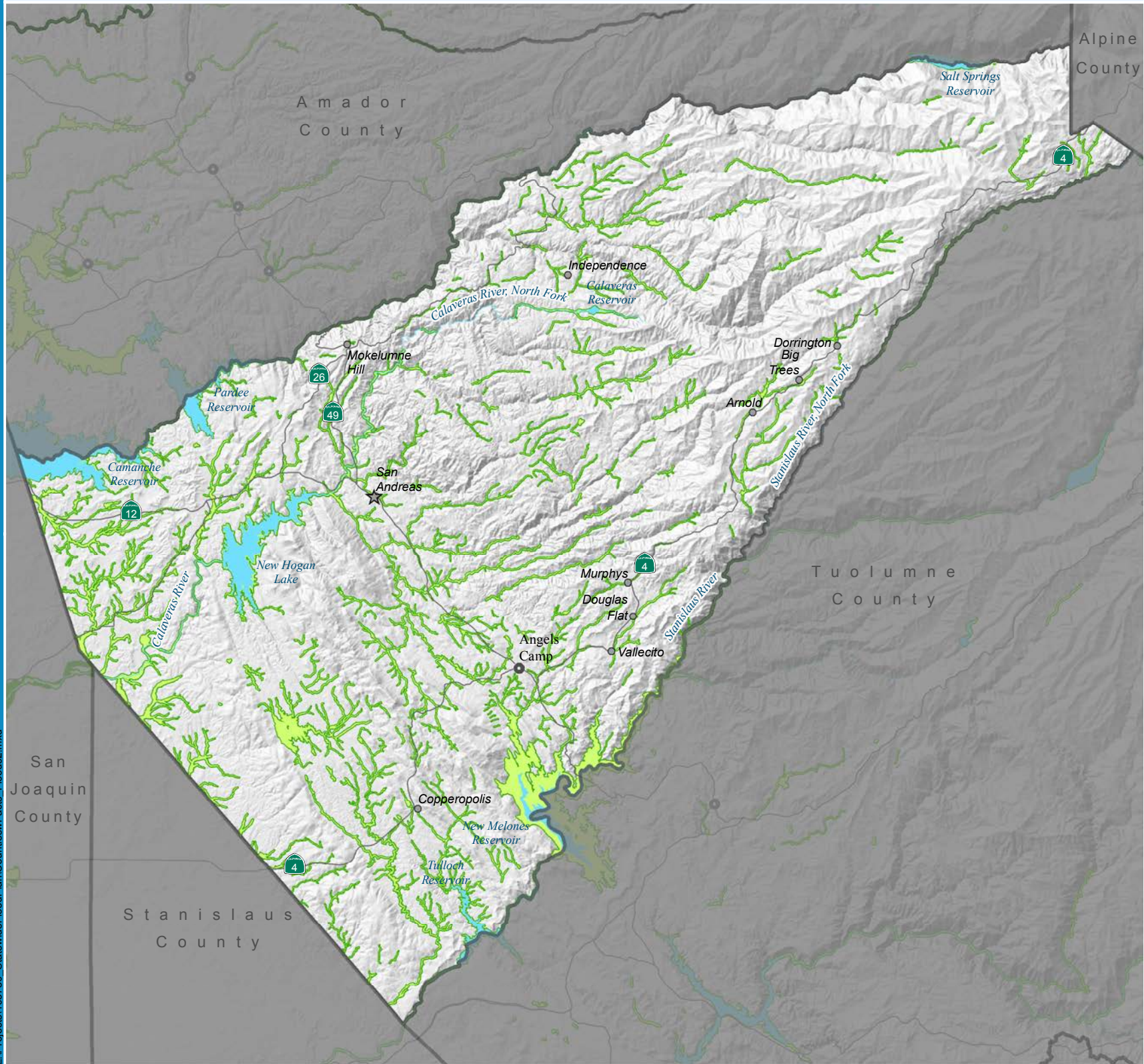
STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:**
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1861-1862 Winter, The Great Flood
- 1871-1872 Winter
- 1950 Winter
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Spring
- 1962-1963 Winter
- 1964-1965 Winter
- 1966-1967 Winter
- 1967 Spring
- 1968-1969 Winter 1968-1969 Storms
- 1980 Winter
- 1982 March
- 1982-1983 Winter/Spring, Winter Storms
- 1986 Winter, St. Valentine's Day Storm
- 1992-1993 Late Winter Storms
- 1995-1996 Winter/Spring, 1995 Christmas Floods
- 1996-1997 Winter, January 1997 Floods
- 1999 February 9, 1999 Flash Flood
- 2006 Spring Storms

Flood Hazard Exposure

County Statistics

Total Acreage:	662,800
Total Population:	40,600
Total Structures:	25,500
Total Depreciated Replacement Value of Structures and Contents:	\$5.6 billion
Total Crop Acreage:	3,300
Total Value of Crops:	\$3.5 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Area Exposed (acres):	34,600	34,600
Percent of Area Exposed:	5%	5%
Population Exposed:	1,600	1,600
Percent of Population Exposed:	4%	4%
Structures Exposed:	1,000	1,000
Depreciated Replacement Value of Structures and Contents Exposed:	\$220.6 million	\$220.6 million
Crops Exposed (acres):	300	300
Value of Crops Exposed:	\$843,000	\$843,000
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	2	2
High Potential Loss Facilities Exposed:	11	11
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	14	14
Transportation Segments Exposed (miles):	11	11
Native American Tribal Land Exposed (acres):	3	3
Total Sensitive Plant Species Exposed:	18	18
Total Sensitive Animal Species Exposed:	25	25

Types of Flooding

Likely:	Present:
Flash	Debris Flow
Slow Rise	Engineered Structure Failure
Stormwater	

Hydrologic Regions

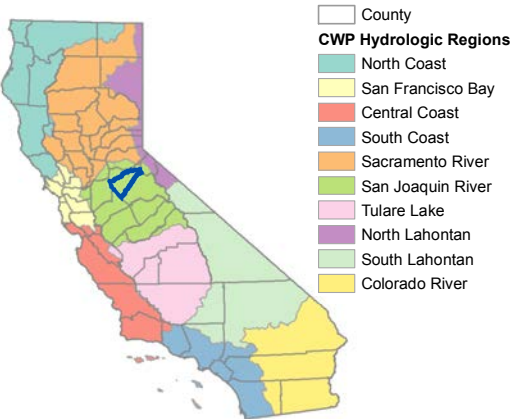


Figure D-9
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Calaveras County.

September 2013



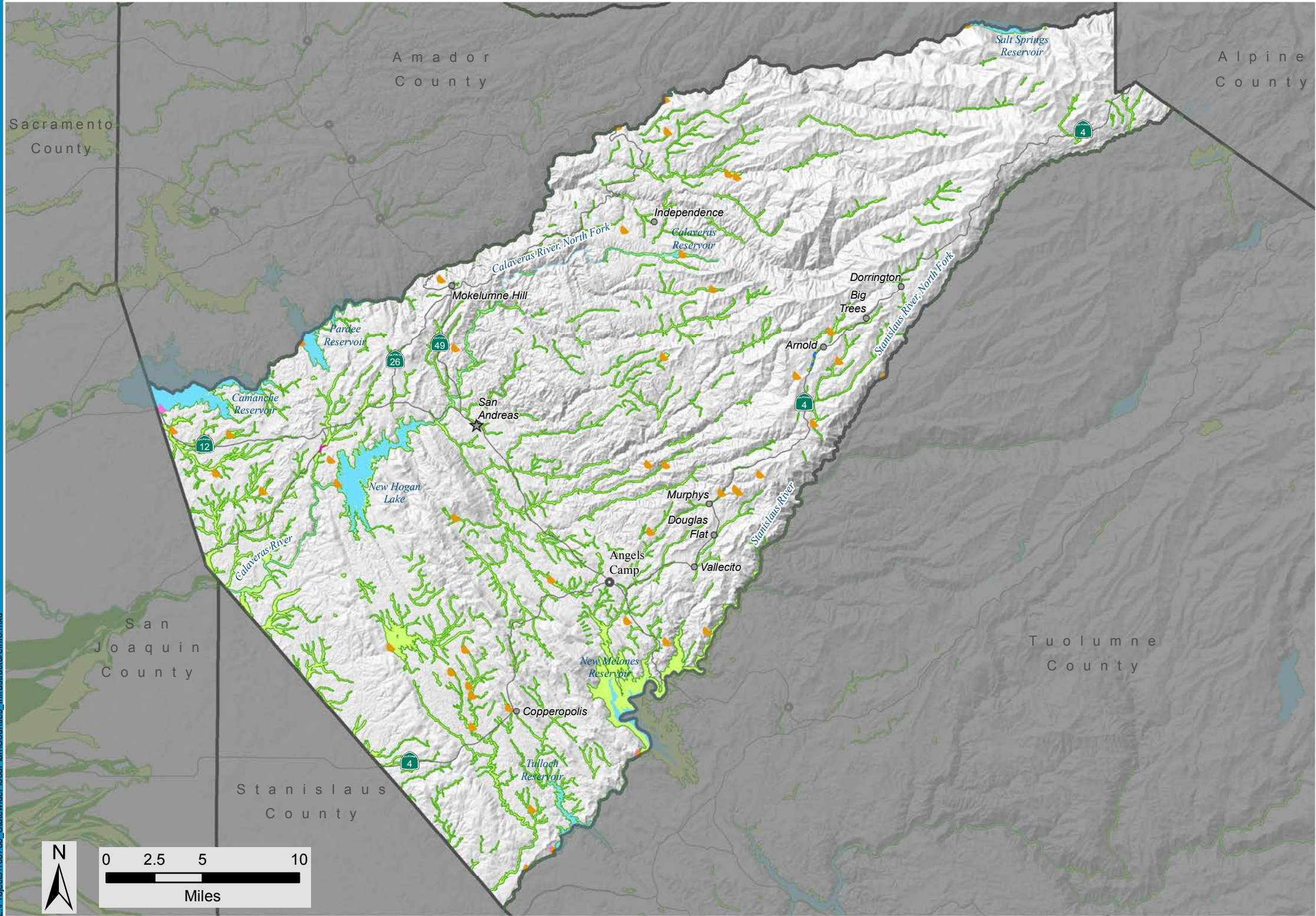
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Calaveras County

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Calaveras County



Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:
Calaveras County
Calaveras County Water District

Planned Projects:
Number of Local Projects: 6
Estimated Cost of Local Projects: \$28.7 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-10
Summary of Available Flood Infrastructure
Information, Calaveras County

September 2013



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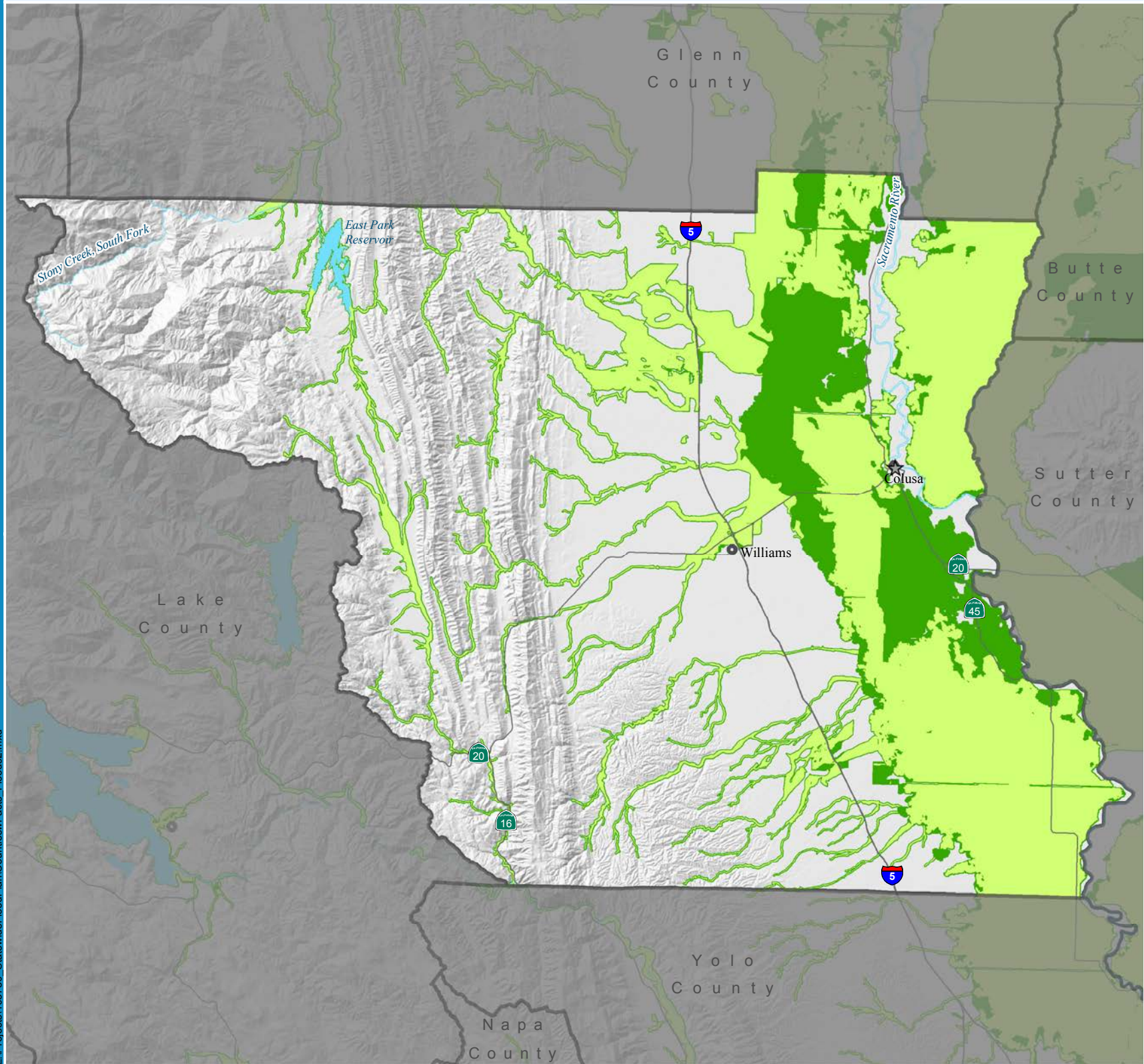
STATEWIDE FLOOD
MANAGEMENT
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- Statewide GIS Data:
- | | | | | | | |
|-------------------|------------------|------------------------|----------------------------|---------------------|------------------|-------------------|
| ● City | ● DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Highway | 100-yr Floodplain |
| ○ Populated Place | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major River | 500-yr Floodplain |
| | | | | | Major Water Body | County |
- Legend symbols: DWR Local Agency Dam (black dot), CLD Pump Station (yellow square with 'PS'), NFHL Levee (pink line), NFHL Control Structure (purple line), Highway (black line with shield), 100-yr Floodplain (light green fill), City (black dot), DWR Other Dam (orange dot), CLD Local Agency Levee (red line), NFHL Flood Event Structure (blue line), NFHL Dike (purple dashed line), Major River (blue line), 500-yr Floodplain (yellow fill), Populated Place (grey dot), NFHL Dam or Weir (pink dot), CLD Other Levee (red line), NFHL Channel (blue line), NFHL Retaining Wall (blue dashed line), Major Water Body (blue fill), County (black outline).

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1805
- 1861-1862 Winter, The Great Flood
- 1889-1890 Winter
- 1913-1914 Winter
- 1937-1938 Winter, Great Flood
- 1942 Winter
- 1958 Winter/Spring
- 1962-1963 Winter
- 1964-1965 Winter, Christmas 1964 Disaster
- 1966-1967 Winter
- 1969-1970 Winter/Spring, Northern California Flooding
- 1974 Winter/Spring, 1974 Flood
- 1979-1980 Winter/Spring
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1995 Winter Storms
- 1996-1997 Winter, January 1997 Floods
- 1998 Spring, El Niño Floods
- 2006 May 10
- 2008 January 5-14, 2008 Winter Storms

Flood Hazard Exposure

County Statistics	
Total Acreage:	740,400
Total Population:	18,800
Total Structures:	9,000
Total Depreciated Replacement Value of Structures and Contents:	\$1.3 billion
Total Crop Acreage:	293,200
Total Value of Crops:	\$335.6 million

Summary of Exposure to Flood Hazard Reported by County		100-yr Event	500-yr Event
Area Exposed (acres):		175,300	229,200
Percent of Area Exposed:		24%	31%
Population Exposed:		5,800	8,300
Percent of Population Exposed:		31%	44%
Structures Exposed:		2,300	3,500
Depreciated Replacement Value of Structures and Contents Exposed:	\$334.0 million	\$513.8 million	
Crops Exposed (acres):	121,000	159,100	
Value of Crops Exposed:	\$78.1 million	\$99.9 million	
Department of Defense Facilities Exposed:	0	0	
Essential Facilities Exposed:	11	14	
High Potential Loss Facilities Exposed:	9	9	
Lifeline Utilities Exposed:	0	0	
Transportation Facilities Exposed:	80	96	
Transportation Segments Exposed (miles):	31	49	
Native American Tribal Land Exposed (acres):	400	500	
Total Sensitive Plant Species Exposed:	30	31	
Total Sensitive Animal Species Exposed:	29	30	

Types of Flooding

Likely:	Present:
Flash	Alluvial Fan
Slow Rise	Debris Flow
Stormwater	Engineered Structure Failure

Hydrologic Regions

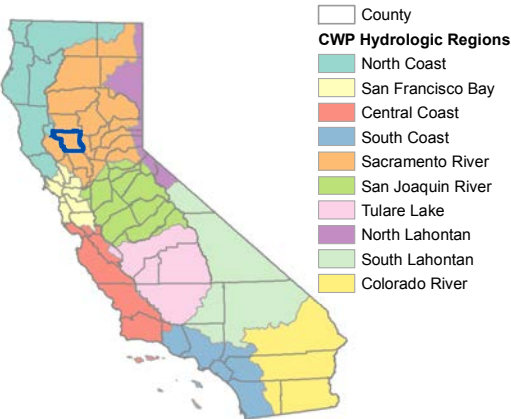


Figure D-11
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Colusa County.

September 2013



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DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Colusa County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
Levee
Channel

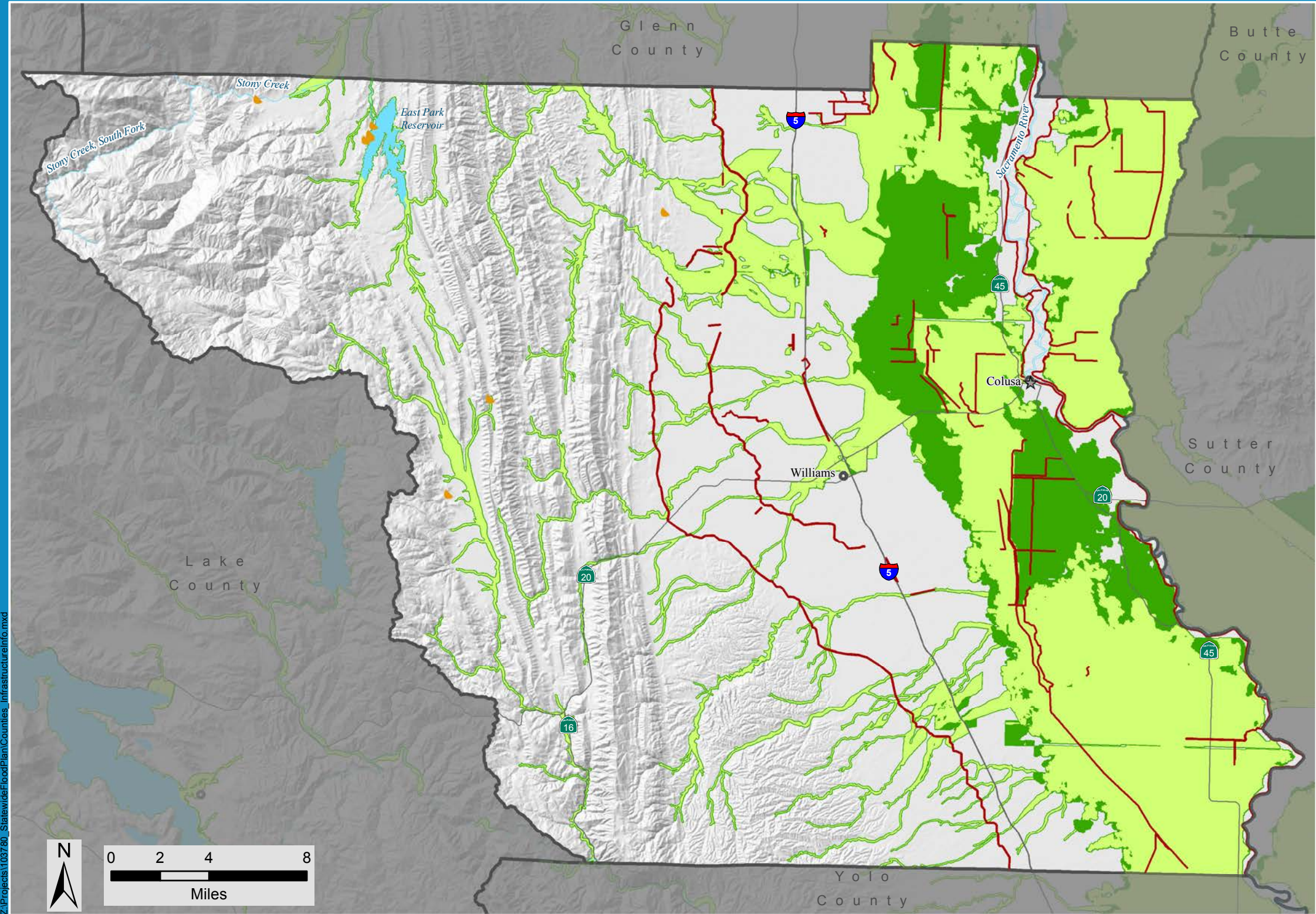
Agencies Contacted as Part of SFMP:
Colusa Basin Drainage District
Colusa County Public Works
Sacramento River West Side Levee District

Planned Projects:
Number of Local Projects: 6
Estimated Cost of Local Projects: n/a
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-12
Summary of Available Flood Infrastructure
Information, Colusa County

September 2013



- Statewide GIS Data:**
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

This map displays the geographical features and flood-prone areas of Contra Costa County, California. The county is bordered by Sonoma, Napa, Solano, and Sacramento counties to the north, Marin and San Francisco counties to the west, and Alameda and San Mateo counties to the south. Major water bodies include San Pablo Bay, Grizzly Bay, Suisun Bay, and San Francisco Bay. Key cities and towns are marked, including Hercules, Martinez, Concord, Clayton, Pittsburg, Antioch, Oakley, Brentwood, Walnut Creek, Pleasant Hill, El Cerrito, Pinole, San Pablo, Richmond, Orinda, Lafayette, Moraga, Danville, and San Ramon. Major highways shown are I-80, I-680, SR-4, and SR-160. The map highlights flood-prone areas in yellow and green, with the Sacramento-San Joaquin Delta and Clifton Court Forebay also indicated.



1798-1799 Winter
1819 Winter
1861-1862 Winter, The Great Flood
1907 March, The Great Lone Flood
1937-1938 Winter, Great Flood
1955-1956 Winter, 1955 Christmas Flood
1958 Winter/Spring
1964-1965 Winter, Christmas 1964 Disaster
1968-1969 Winter 1968-1969 Storms
1973 Winter, Coastal Flooding
1981-1982 Winter/Spring Storms
1982-1983 Winter/Spring, Winter Storms
1986 Winter, St. Valentine's Day Storm
1992-1993 Late Winter Storms
1995-1996 Winter/Spring, 1995 Christmas Floods
1996-1997 Winter, January 1997 Floods
1998 Winter, El Niño Floods
2005-2006 Winter, New Year's Eve Flood of 2006
2006 2006 Spring Storms
2011 March

Likely:	Present:
Debris Flow	Coastal
Flash	Engineered Structure Failure
Slow Rise	
Stormwater	

CWP Hydrologic Regions

- County
- North Coast
- San Francisco Bay
- Central Coast
- South Coast
- Sacramento River
- San Joaquin River
- Tulare Lake
- North Lahontan
- South Lahontan
- Colorado River

County Statistics		
Total Acreage:	514,000	
Total Population:	949,000	
Total Structures:	320,100	
Total Depreciated Replacement Value of Structures and Contents:	\$110.0 billion	
Total Crop Acreage:	48,400	
Total Value of Crops:	\$131.5 million	
Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	113,000	125,300
Percent of Area Exposed:	22%	24%
Population Exposed:	39,500	66,800
Percent of Population Exposed:	4%	7%
Structures Exposed:	15,300	25,300
Depreciated Replacement Value of Structures and Contents Exposed:	\$4.9 billion	\$8.7 billion
Crops Exposed (acres):	23,200	28,500
Value of Crops Exposed:	\$48.4 million	\$62.0 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	20	38
High Potential Loss Facilities Exposed:	64	65
Lifeline Utilities Exposed:	12	14
Transportation Facilities Exposed:	110	135
Transportation Segments Exposed (miles):	60	82
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	49	49
Total Sensitive Animal Species Exposed:	63	64

Figure D-13
Summary of Available Flood Types,
Flood History and Flood Hazard Exposure,
Contra Costa County.

September 2013



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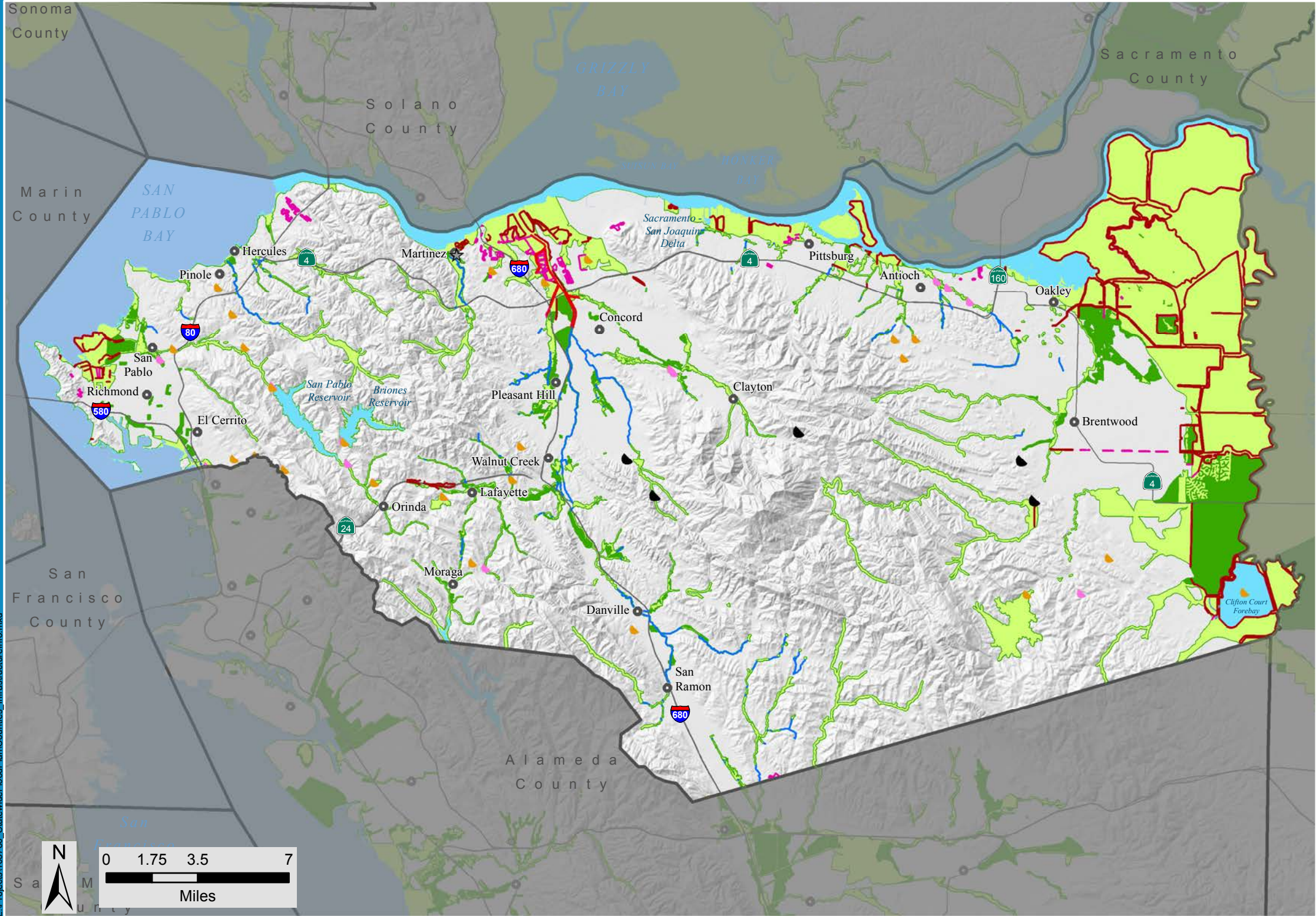
FloodSAFE
CALIFORNIA

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DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information

Contra Costa County



Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:
Contra Costa Flood Control and Water Conservation
District
Bethel Island Municipal Improvement District

Planned Projects:
Number of Local Projects: 51
Estimated Cost of Local Projects: \$148.2 million
Number of USACE Projects: 3
Estimated Cost of USACE Projects: \$10.8 million

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-14
Summary of Available Flood Infrastructure
Information, Contra Costa County

September 2013



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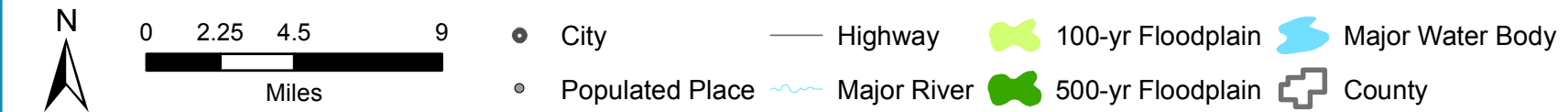
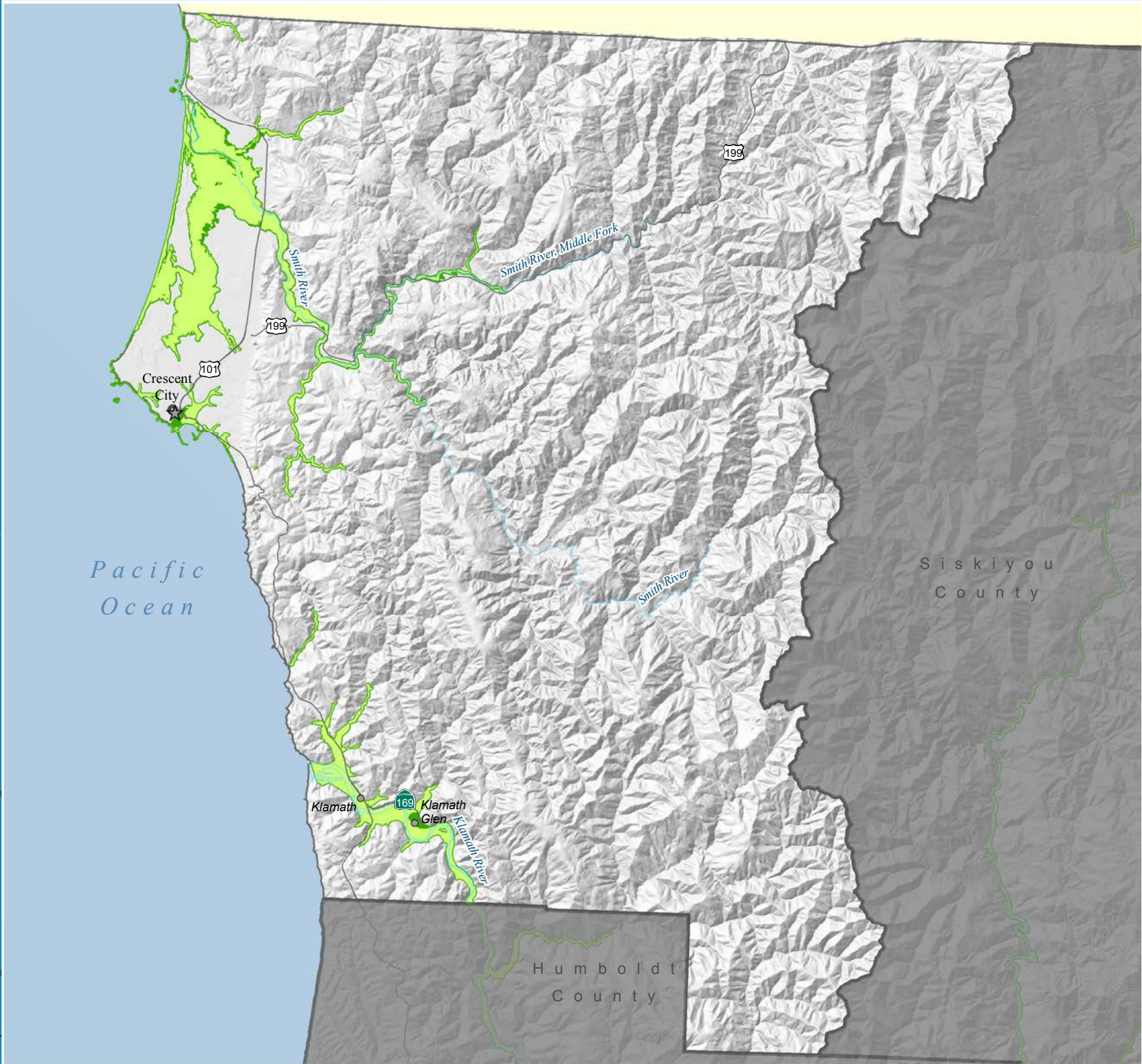
STATEWIDE FLOOD
MANAGEMENT
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- Statewide GIS Data:
- City
 - Populated Place
 - DWR Local Agency Dam
 - DWR Other Dam
 - NFHL Dam or Weir
 - CLD Local Agency Levee
 - CLD Other Levee
 - NFHL Levee
 - NFHL Flood Event Structure
 - NFHL Channel
 - NFHL Control Structure
 - NFHL Dike
 - NFHL Retaining Wall
 - Highway
 - Major River
 - Major Water Body
 - County
 - 100-yr Floodplain
 - 500-yr Floodplain

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



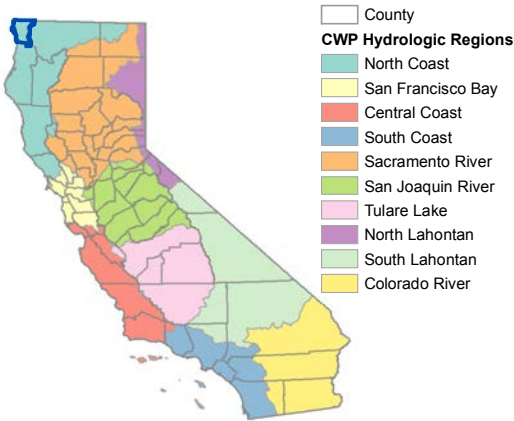
Selected Flood Events by Event Year

- 1861-1862 Winter, The Great Flood
- 1871 December
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Spring
- 1962 October
- 1964-1965 Winter, Christmas 1964 Disaster
- 1968-1969 Winter 1968-1969 Storms
- 1970 Fall
- 1974 Spring
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1995 Winter, Severe Winter Storms
- 1995 December, Severe Winter Storms
- 1996-1997 Winter, January 1997 Floods
- 1998 Spring, El Niño Floods
- 2002 December, El Niño Floods
- 2005-2006 Winter, New Year's Eve Flood of 2006
- 2007 January 13
- 2008 January 5-14, 2008 Winter Storms
- 2011 March, Tsunami

Types of Flooding

- | Likely: | Present: |
|-------------|------------------------------|
| Coastal | Alluvial Fan |
| Debris Flow | Engineered Structure Failure |
| Slow Rise | Flash |
| Stormwater | Tsunami |

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	649,000
Total Population:	27,500
Total Structures:	11,200
Total Depreciated Replacement Value of Structures and Contents:	\$1.8 billion
Total Crop Acreage:	10,700
Total Value of Crops:	\$0

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Area Exposed (acres):	19,300	20,200
Percent of Area Exposed:	3%	3%
Population Exposed:	1,700	2,600
Percent of Population Exposed:	6%	9%
Structures Exposed:	900	1,400
Depreciated Replacement Value of Structures and Contents Exposed:	\$131.1 million	\$234.7 million
Crops Exposed (acres):	5,400	5,700
Value of Crops Exposed:	n/a	n/a
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	1	3
High Potential Loss Facilities Exposed:	0	0
Lifeline Utilities Exposed:	2	3
Transportation Facilities Exposed:	18	18
Transportation Segments Exposed (miles):	11	12
Native American Tribal Land Exposed (acres):	3,600	3,800
Total Sensitive Plant Species Exposed:	49	49
Total Sensitive Animal Species Exposed:	32	32

Figure D-15
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Del Norte County.

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DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Del Norte County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
 No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Channel
Dam
Levee
Relief Well

Agencies Contacted as Part of SFMP:

Caltrans Region 1
Crescent City
Crescent City Harbor
Del Norte Flood Control District
Smith River Rancheria

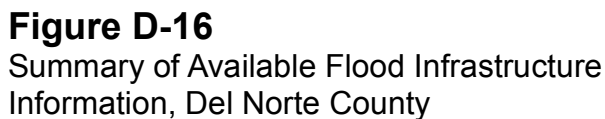
Planned Projects

Number of Local Projects:	5
Estimated Cost of Local Projects:	n/a
Number of USACE Projects:	1
Estimated Cost of USACE Projects:	n/a

Statewide GIS Data Sources

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bulletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

**All other Flood Infrastructure GIS data, noted above,
received from Agencies Contacted.**



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Statewide GIS Data:

- City
- Populated Place

 DWR Local Agency Dam


 DWR Other Dam

- NFHL Dam or Weir

PS CLD Pump Station

CLD | Local Agency | evey

CLD Other Levee

 NFHL Levee

 NEHI Flood Event Structure

 NFHL Channel

 NFHL Control Structure

 NFHI Dike NFHL Retaining Wall Highway Major River Major Water Body

100-yr Floodplain

500-yr Floodplain

County

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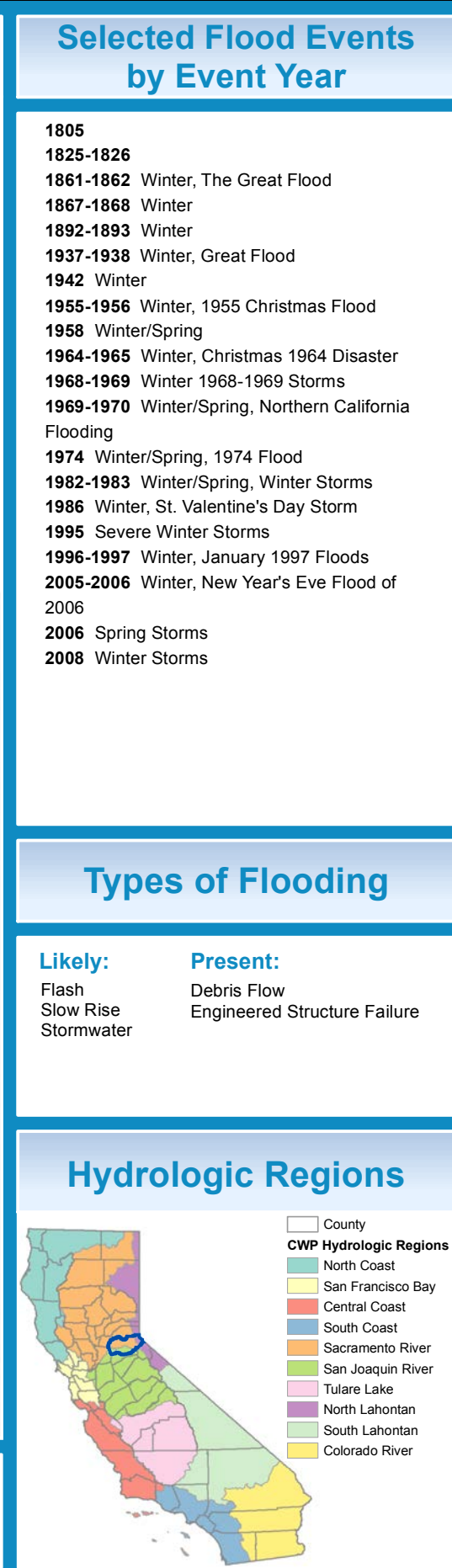
Del Norte County

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

This map displays the 100-year and 500-year floodplains in Placer County, California. The floodplains are highlighted in light blue and green, showing the extent of potential flooding along major waterways. The map includes the following features:

- Counties:** Nevada County, Placer County, Alpine County, Amador County, Calaveras County, Tuolumne County, and Sacramento County.
- Water Bodies:** Folsom Lake, Loon Lake, Union Valley Reservoir, Ice House Reservoir, Stumpy Meadows Reservoir, Jenkinson Lake, American River (South Fork, Silver Fork), Cosumnes River (North Fork, Middle Fork), and Lake Tahoe.
- Infrastructure:** Highways 49, 50, and 89.
- Geographic Features:** Placerville, South Lake Tahoe, and various marshes like Fallen Leaf and Truckee.

The map is titled "100-year and 500-year Floodplains" and is sourced from "Z:\Projects\103780_ Statewide Flood Plan\Counties\wr acts Floods2.mxd".

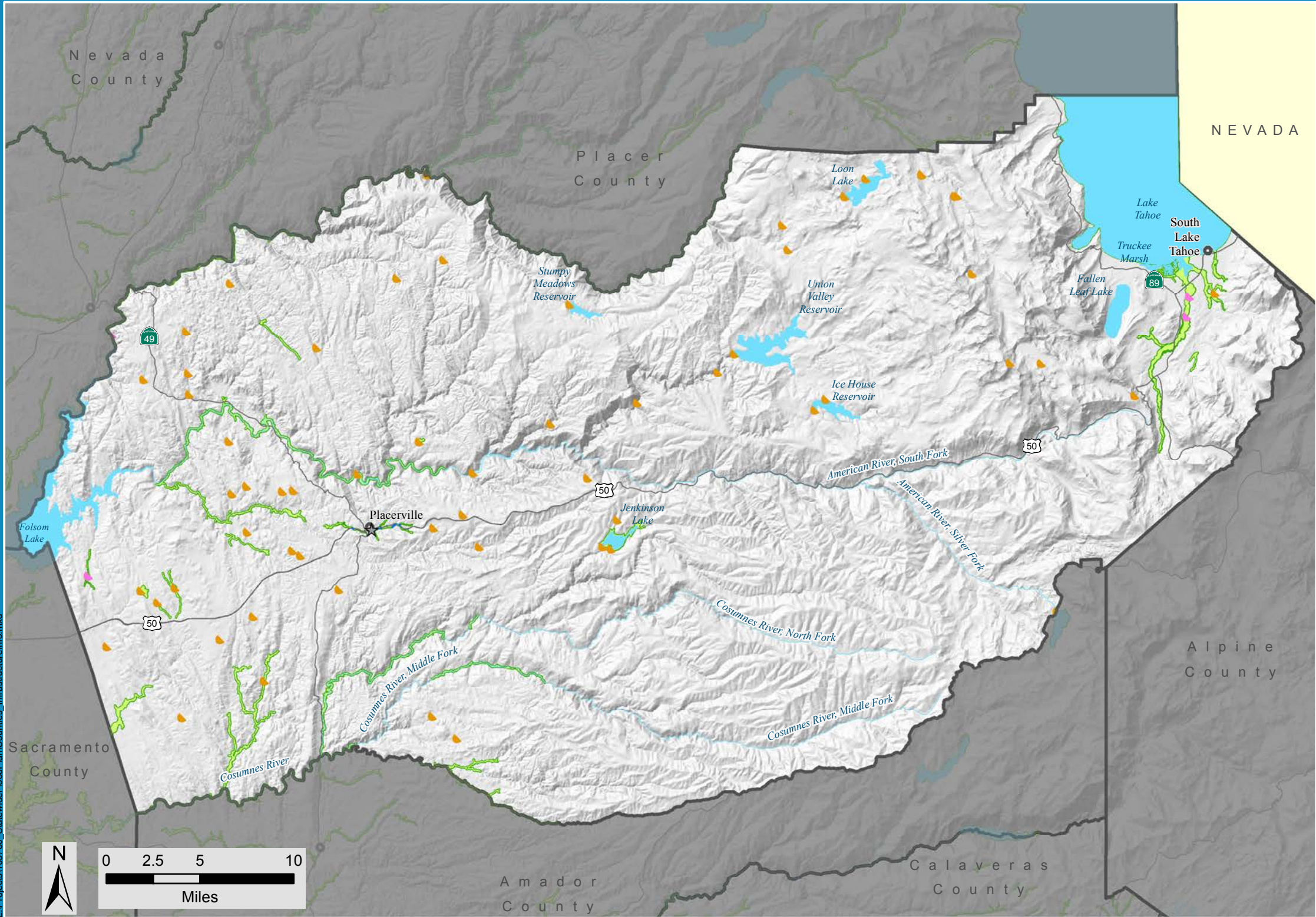


Flood Hazard Exposure			
County Statistics			
Total Acreage:	1.1 million		
Total Population:	156,300		
Total Structures:	75,300		
Total Depreciated Replacement Value of Structures and Contents:	\$20.5 billion		
Total Crop Acreage:	47,200		
Total Value of Crops:	\$76.0 million		
Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event	
Area Exposed (acres):	43,500	43,800	
Percent of Area Exposed:	4%	4%	
Population Exposed:	2,500	2,700	
Percent of Population Exposed:	2%	2%	
Structures Exposed:	1,600	1,800	
Depreciated Replacement Value of Structures and Contents Exposed:	\$476.2 million	\$520.3 million	
Crops Exposed (acres):	500	500	
Value of Crops Exposed:	\$122,900	\$122,900	
Department of Defense Facilities Exposed:	0	0	
Essential Facilities Exposed:	0	0	
High Potential Loss Facilities Exposed:	3	3	
Lifeline Utilities Exposed:	2	2	
Transportation Facilities Exposed:	13	16	
Transportation Segments Exposed (miles):	6	6	
Native American Tribal Land Exposed (acres):	0	0	
Total Sensitive Plant Species Exposed:	20	20	
Total Sensitive Animal Species Exposed:	25	25	

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information

El Dorado County



Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:
El Dorado County

Planned Projects:
Number of Local Projects: 4
Estimated Cost of Local Projects: \$47.8 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-18
Summary of Available Flood Infrastructure
Information, El Dorado County

September 2013



US Army Corps
of Engineers.



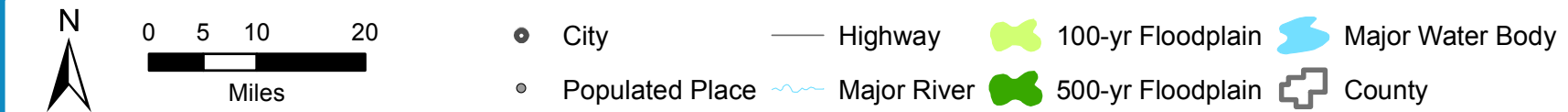
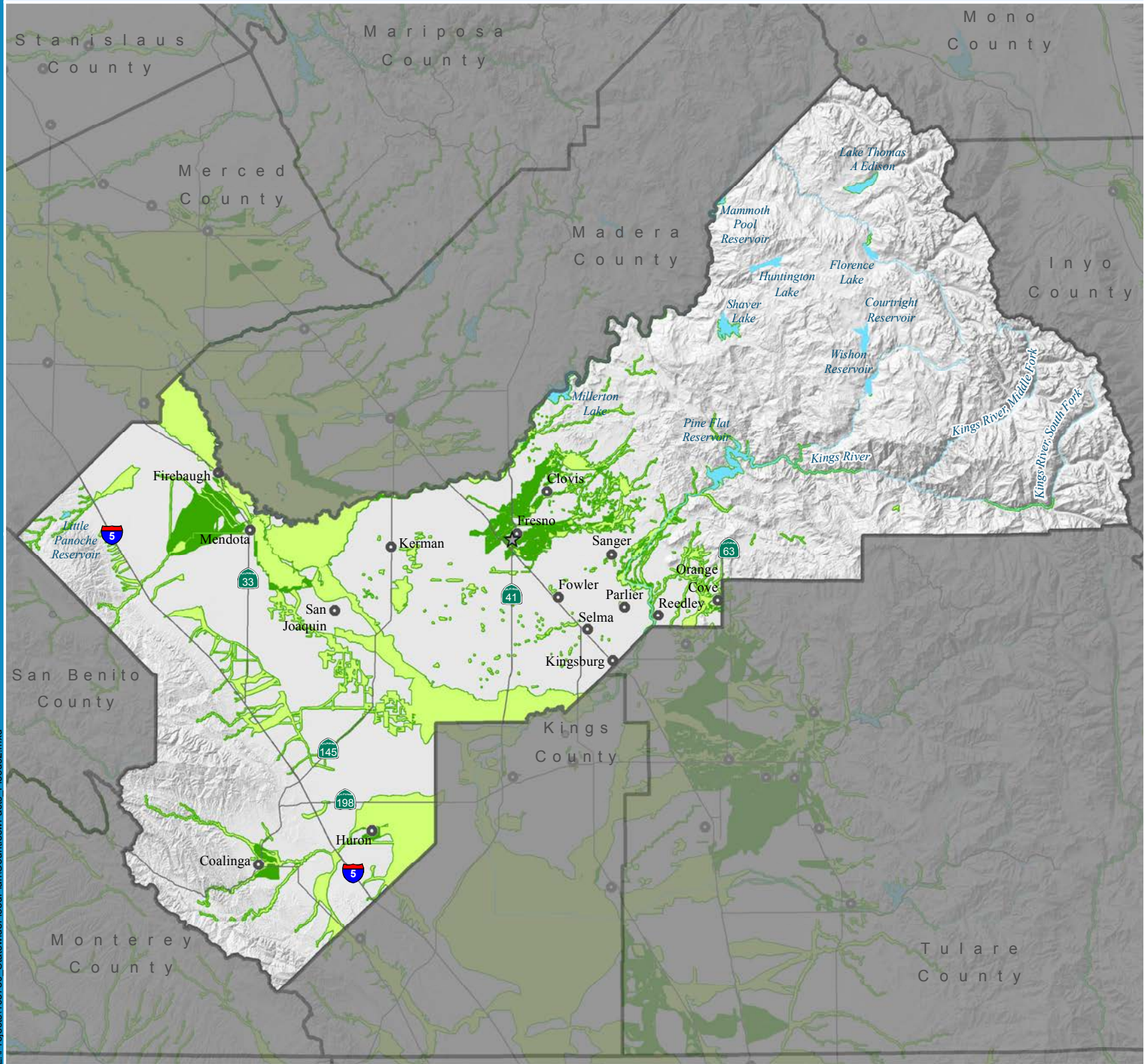
STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:
- City
 - Populated Place
 - DWR Local Agency Dam
 - DWR Other Dam
 - NFHL Dam or Weir
 - CLD Local Agency Levee
 - CLD Other Levee
 - NFHL Levee
 - NFHL Flood Event Structure
 - NFHL Channel
 - NFHL Control Structure
 - NFHL Dike
 - NFHL Retaining Wall
 - Highway
 - Major River
 - Major Water Body
 - 100-yr Floodplain
 - 500-yr Floodplain
 - County

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1805
- 1852-1853 Spring
- 1861-1862 Winter, The Great Flood
- 1867-1868 Winter
- 1950 Winter
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Spring
- 1966-1967 Winter
- 1968-1969 Winter 1968-1969 Storms
- 1982-1983 Winter/Spring, Winter Storms
- 1986 Winter, St. Valentine's Day Storm
- 1992-1993 Winter, Late Winter Storms
- 1995-1996 Winter/Spring
- 1996-1997 Winter, January 1997 Floods
- 1998 Winter/Spring, El Niño Floods
- 2005-2006 Winter, New Year's Eve Flood of 2006
- 2006 Spring Storms
- 2007 October 29
- 2009 October
- 2010 June 6-8

Flood Hazard Exposure

County Statistics	
Total Acreage:	3.8 million
Total Population:	798,800
Total Structures:	250,400
Total Depreciated Replacement Value of Structures and Contents:	\$60.7 billion
Total Crop Acreage:	1.3 mil
Total Value of Crops:	\$3.0 billion

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	327,900	396,700
Percent of Area Exposed:	9%	10%
Population Exposed:	30,100	223,400
Percent of Population Exposed:	4%	28%
Structures Exposed:	9,100	63,400
Depreciated Replacement Value of Structures and Contents Exposed:	\$1.8 billion	\$13.3 billion
Crops Exposed (acres):	230,900	269,800
Value of Crops Exposed:	\$546.0 million	\$641.7 million
Department of Defense Facilities Exposed:	2	2
Essential Facilities Exposed:	27	107
High Potential Loss Facilities Exposed:	21	36
Lifeline Utilities Exposed:	2	7
Transportation Facilities Exposed:	199	312
Transportation Segments Exposed (miles):	126	220
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	44	44
Total Sensitive Animal Species Exposed:	67	67

Types of Flooding

- | Likely: | Present: |
|------------|------------------------------|
| Flash | Alluvial Fan |
| Slow Rise | Debris Flow |
| Stormwater | Engineered Structure Failure |

Hydrologic Regions

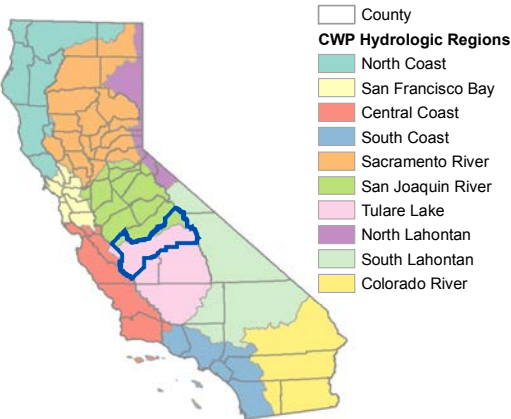


Figure D-19
Summary of Available Flood Types,
Flood History and Flood Hazard Exposure,
Fresno County.



DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Fresno County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

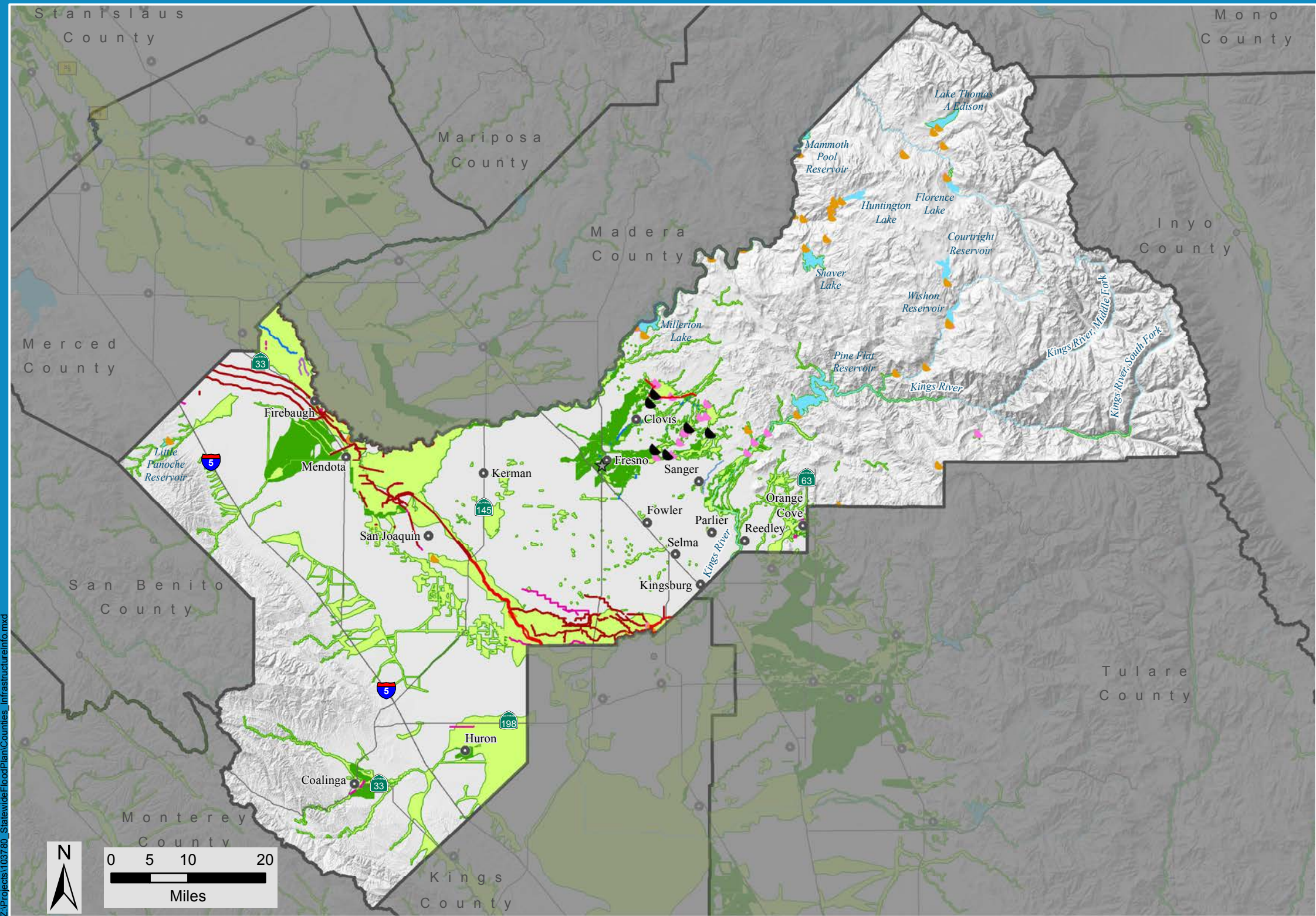
Agencies Contacted as Part of SFMP:
Fresno County Public Works
Fresno Irrigation District
Fresno Metropolitan Flood Control District

Planned Projects:
Number of Local Projects: 11
Estimated Cost of Local Projects: \$144.2 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-20
Summary of Available Flood Infrastructure
Information, Fresno County

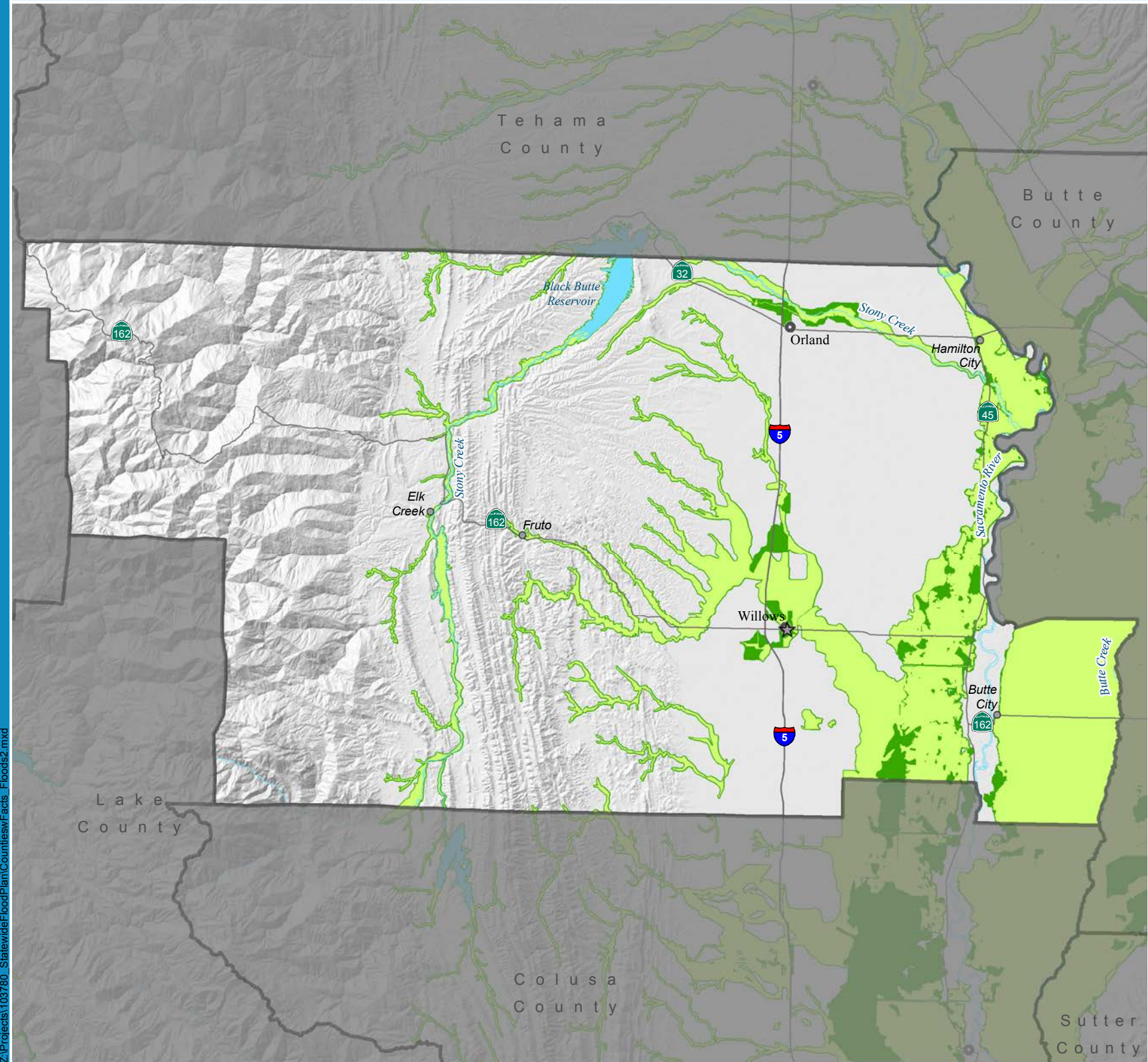
September 2013



- Statewide GIS Data:**
- City
 - Populated Place
 - DWR Local Agency Dam
 - DWR Other Dam
 - NFHL Dam or Weir
 - CLD Pump Station
 - CLD Local Agency Levee
 - CLD Other Levee
 - NFHL Levee
 - NFHL Flood Event Structure
 - NFHL Channel
 - NFHL Control Structure
 - NFHL Dike
 - NFHL Retaining Wall
 - Highway
 - Major River
 - Major Water Body
 - County
 - 100-yr Floodplain
 - 500-yr Floodplain

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



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Selected Flood Events by Event Year

- 1805
- 1825-1826
- 1861-1862 Winter, The Great Flood
- 1892-1893 Winter
- 1907 Winter
- 1937-1938 Winter, Great Flood
- 1942 Winter
- 1958 Winter/Spring
- 1960 February
- 1962-1963 Winter
- 1964-1965 Winter, Christmas 1964 Disaster
- 1969-1979 Winter/Spring, Northern California Flooding
- 1974 Winter/Spring, 1974 Flood
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1995 Winter Storms
- 1996-1997 Winter, January 1997 Floods
- 1998 Winter, El Niño Floods
- 2002 Winter, El Niño Floods
- 2008 January 5-14, 2008 Winter Storms

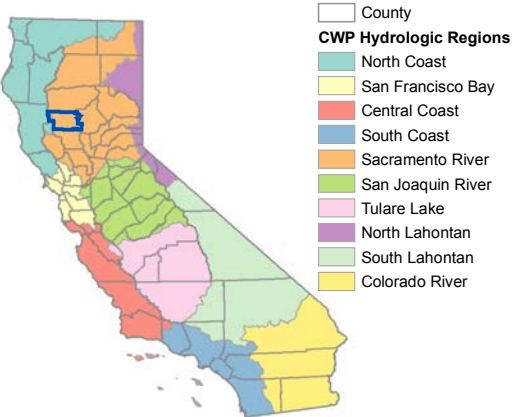
Types of Flooding

- Likely:

Slow Rise
Stormwater
- Present:

Engineered Structure Failure
Flash

Hydrologic Regions



Flood Hazard Exposure

County Statistics	
Total Acreage:	849,100
Total Population:	26,400
Total Structures:	11,300
Total Depreciated Replacement Value of Structures and Contents:	\$1.7 billion
Total Crop Acreage:	244,700
Total Value of Crops:	\$324.9 million

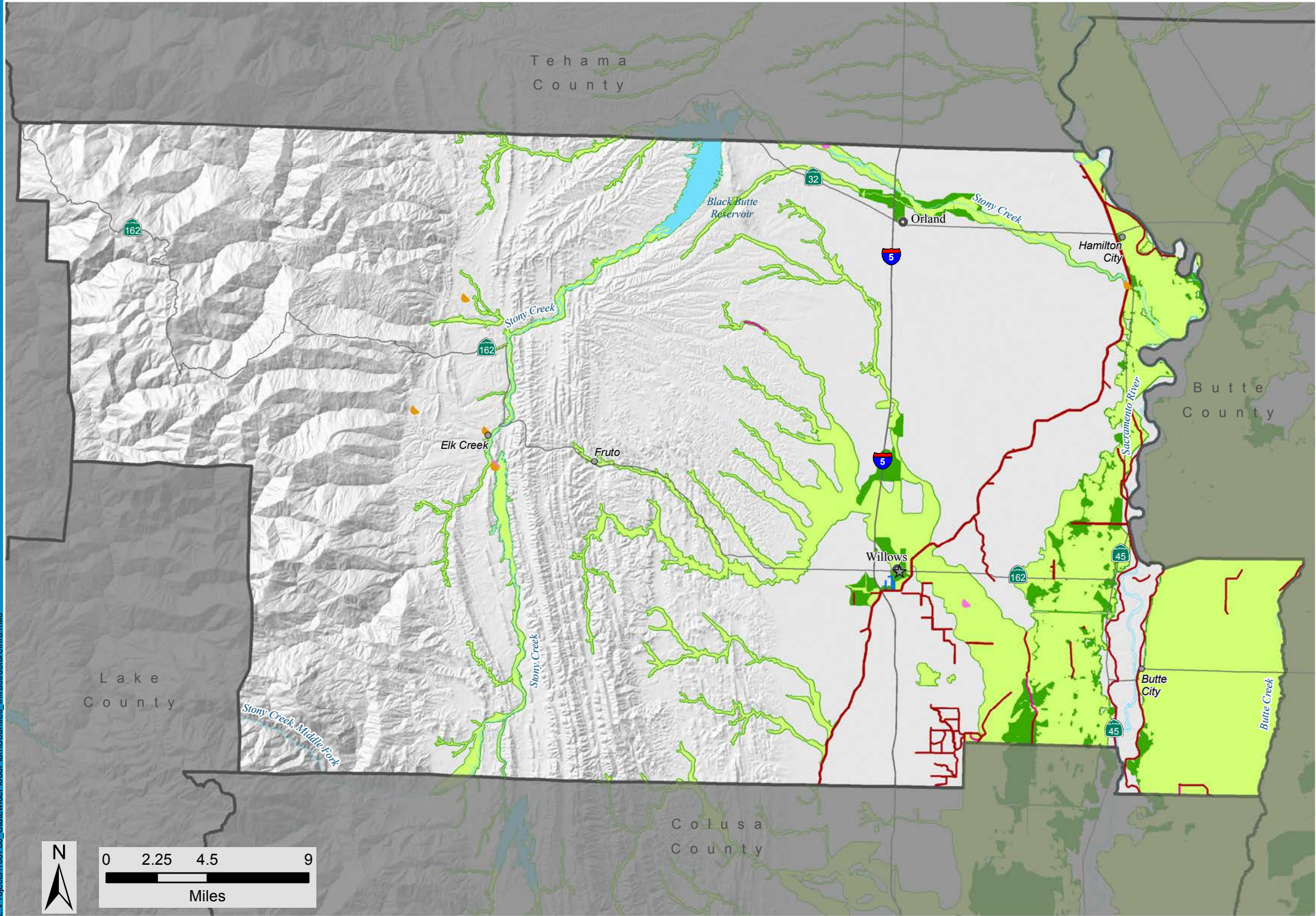
Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	123,300	133,800
Percent of Area Exposed:	15%	16%
Population Exposed:	4,700	9,500
Percent of Population Exposed:	18%	36%
Structures Exposed:	1,800	3,800
Depreciated Replacement Value of Structures and Contents Exposed:	\$246.0 million	\$503.3 million
Crops Exposed (acres):	80,900	88,200
Value of Crops Exposed:	\$86.5 million	\$93.2 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	8	14
High Potential Loss Facilities Exposed:	1	1
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	98	110
Transportation Segments Exposed (miles):	41	52
Native American Tribal Land Exposed (acres):	100	100
Total Sensitive Plant Species Exposed:	17	17
Total Sensitive Animal Species Exposed:	20	23

Figure D-21
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Glenn County.

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Glenn County



Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
Levee
Channel

Agencies Contacted as Part of SFMP:
Glenn Colusa Irrigation District
Glenn County Public Works
City of Orland
City of Willows

Planned Projects:
Number of Local Projects: 6
Estimated Cost of Local Projects: n/a
Number of USACE Projects: 1
Estimated Cost of USACE Projects: \$23.4 million

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-22
Summary of Available Flood Infrastructure
Information, Glenn County

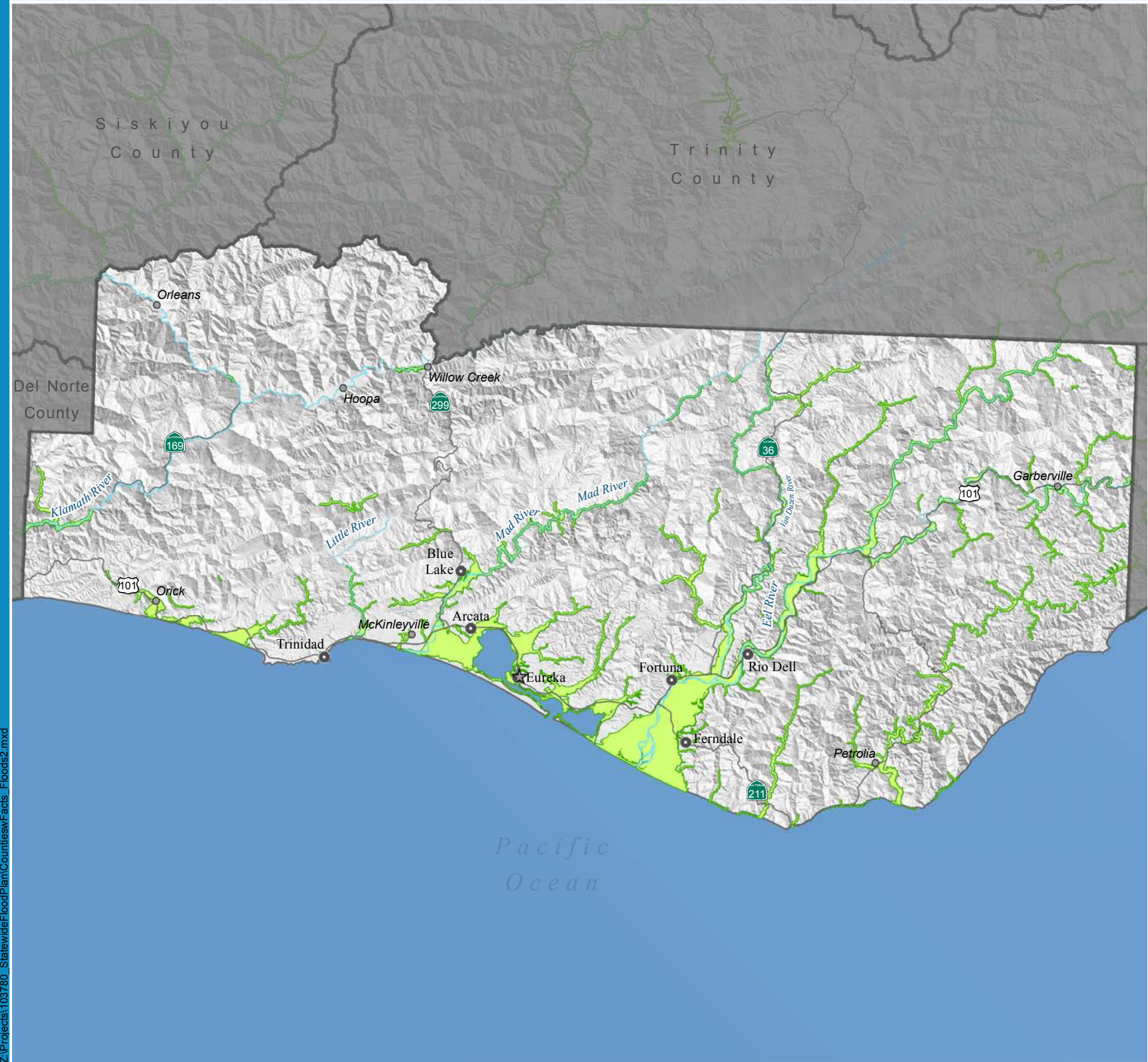
September 2013



- Statewide GIS Data:
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



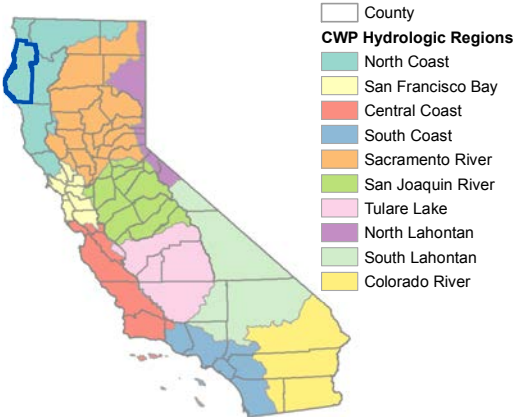
Selected Flood Events by Event Year

- 1855 March 19, Humboldt Bay
- 1861-1862 Winter, The Great Flood
- 1937 Winter, Great Flood
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Winter
- 1962 October
- 1964-1965 Winter, Christmas 1964 Disaster
- 1968-1969 Winter 1968-1969 Storms
- 1969-1970 Winter/Spring, Northern California Flooding
- 1970 Fall
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1993 Winter, Late Winter Storms
- 1995 Severe Winter Storms
- 1995 December
- 1996-1997 Winter, January 1997 Floods
- 2002 December, El Niño Floods
- 2005-2006 Winter, New Year's Eve Flood of 2006
- 2006 2006 Spring Storms
- 2011 March

Types of Flooding

- | Likely: | Present: |
|-------------|------------------------------|
| Coastal | Engineered Structure Failure |
| Debris Flow | Tsunami |
| Flash | |
| Slow Rise | |
| Stormwater | |

Hydrologic Regions



Flood Hazard Exposure

County Statistics	
Total Acreage:	2.3 million
Total Population:	126,500
Total Structures:	58,000
Total Depreciated Replacement Value of Structures and Contents:	\$8.8 billion
Total Crop Acreage:	45,900
Total Value of Crops:	\$5.2 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Area Exposed (acres):	95,700	97,400
Percent of Area Exposed:	4%	4%
Population Exposed:	10,000	11,400
Percent of Population Exposed:	8%	9%
Structures Exposed:	5,000	5,700
Depreciated Replacement Value of Structures and Contents Exposed:	\$707.2 million	\$799.1 million
Crops Exposed (acres):	33,200	33,800
Value of Crops Exposed:	\$3.2 million	\$3.2 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	10	10
High Potential Loss Facilities Exposed:	9	9
Lifeline Utilities Exposed:	4	5
Transportation Facilities Exposed:	119	122
Transportation Segments Exposed (miles):	101	106
Native American Tribal Land Exposed (acres):	1,400	1,400
Total Sensitive Plant Species Exposed:	46	46
Total Sensitive Animal Species Exposed:	43	43

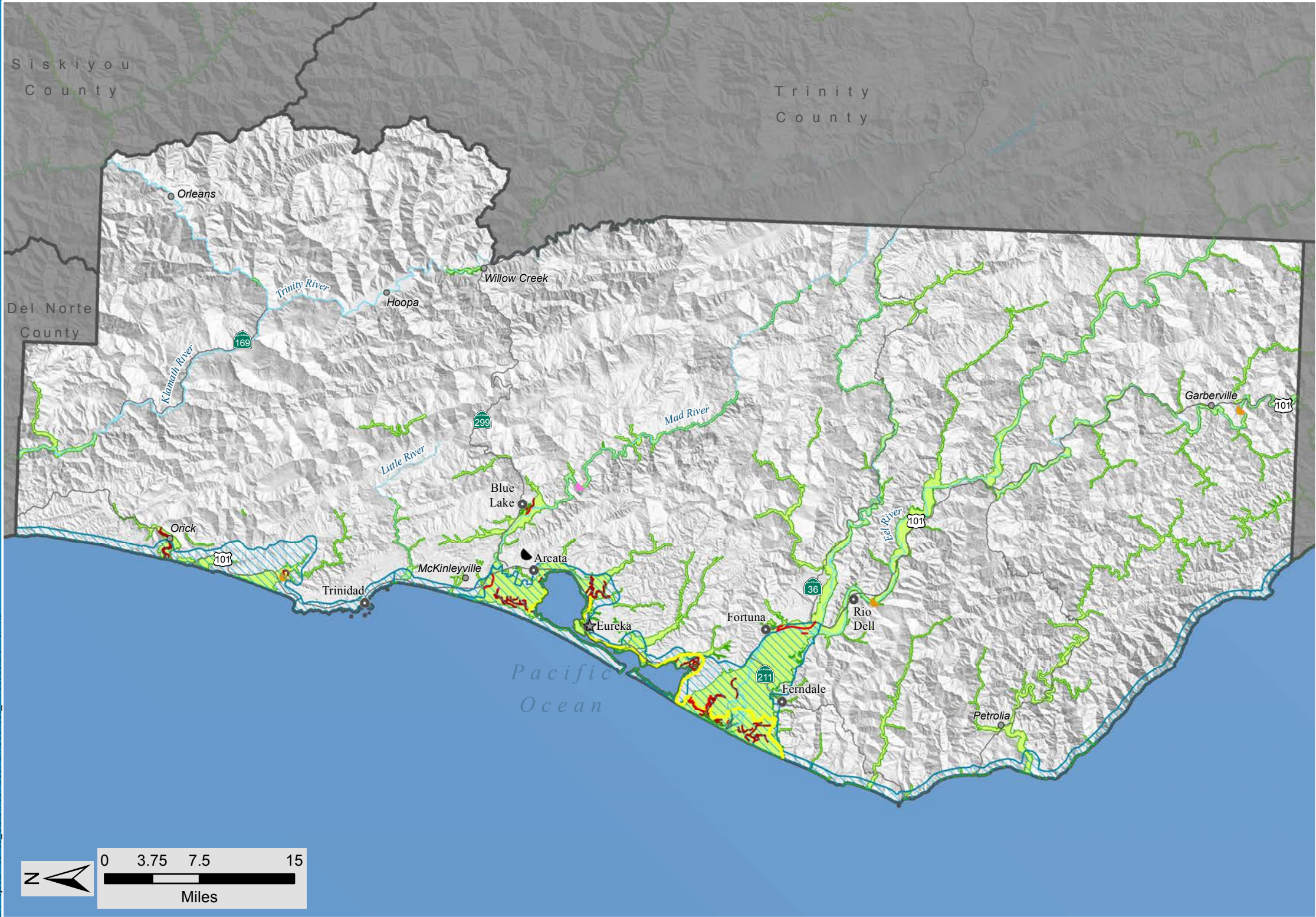
Figure D-23
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Humboldt County.

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DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Humboldt County



Flood Infrastructure GIS Data
Received from Agencies Contacted:

- Tsunami Run-up Line
- Coastal Zone

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):

- Dam
- Levee
- Channel

Agencies Contacted as Part of SFMP:

- Blue Lake Rancheria
- City of Arcata
- City of Eureka
- Hoopla Valley Tribe Office of Emergency Services (OES)
- Humboldt Bay Municipal Water District
- Humboldt County Public Works Department
- Trinidad Rancheria
- Yurok Tribe

Planned Projects:

Number of Local Projects:	10
Estimated Cost of Local Projects:	\$22.8 million
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011. All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-24
Summary of Available Flood Infrastructure
Information, Humboldt County

September 2013



US Army Corps
of Engineers.



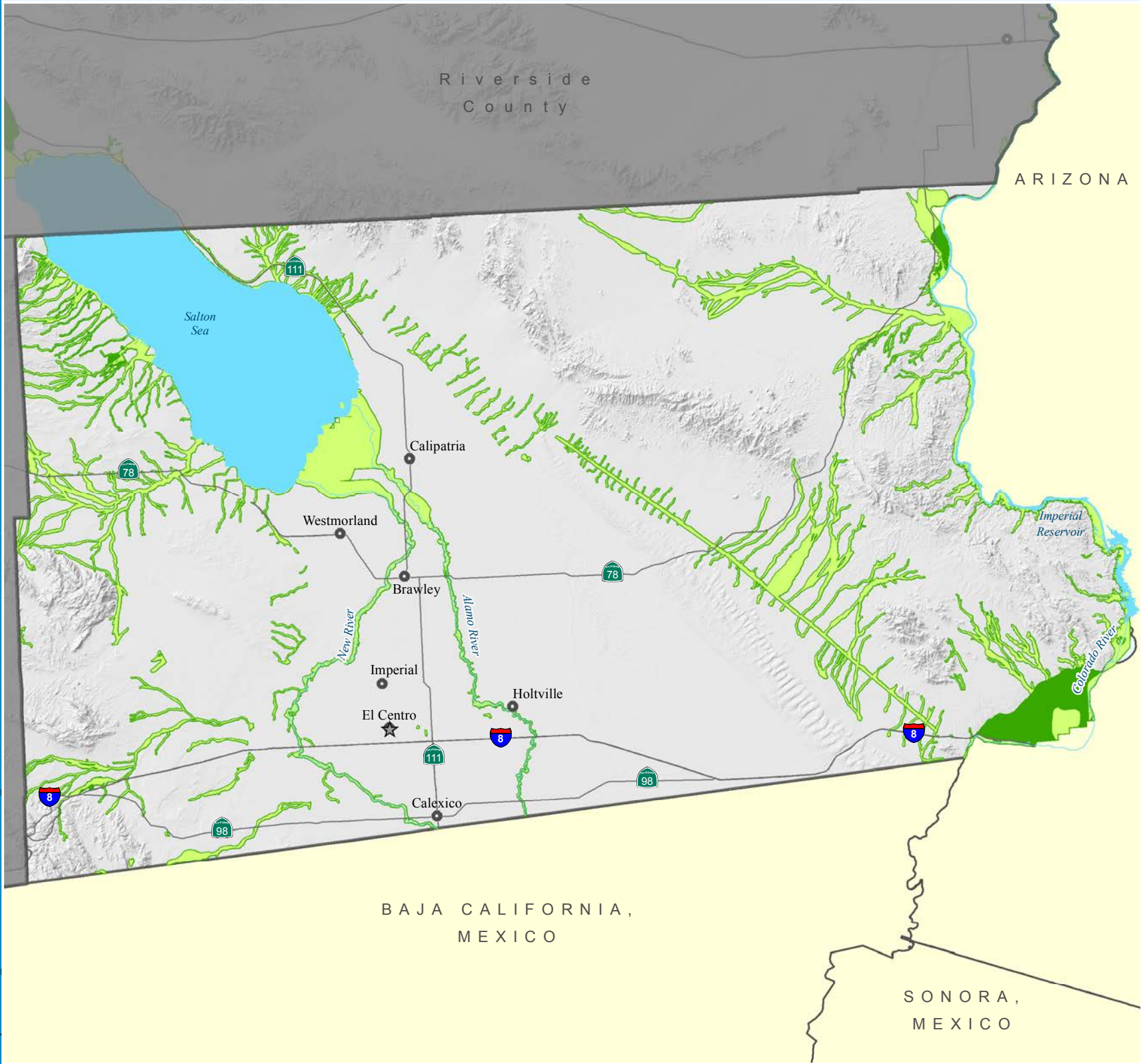
STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1905
- 1907
- 1916 January, Great Flood of 1916
- 1939 September 5-7
- 1951 August 27, Tropical Storm
- 1969 Winter 1969 Storms
- 1976 January 23-25
- 1976 September, Tropical Storm Kathleen
- 1977 August 15-17, Tropical Storm Doreen
- 1982 December 8-9
- 1983 Spring
- 1993 Winter Storms
- 1995 January 4-24, Severe Winter Storms
- 1998 September 9
- 1999 September 10
- 2000 August 29
- 2001 August 11
- 2004 December 28
- 2005 August 9
- 2010 October 12
- 2012 July 30

Flood Hazard Exposure

County Statistics

Total Acreage:	2.9 million
Total Population:	142,400
Total Structures:	44,100
Total Depreciated Replacement Value of Structures and Contents:	\$6.9 billion
Total Crop Acreage:	518,900
Total Value of Crops:	\$1.0 billion

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Area Exposed (acres):	349,600	373,500
Percent of Area Exposed:	12%	13%
Population Exposed:	1,400	4,800
Percent of Population Exposed:	1%	3%
Structures Exposed:	1,100	2,800
Depreciated Replacement Value of Structures and Contents Exposed:	\$102.9 million	\$221.9 million
Crops Exposed (acres):	32,000	49,600
Value of Crops Exposed:	\$76.9 million	\$160.6 million
Department of Defense Facilities Exposed:	3	3
Essential Facilities Exposed:	0	6
High Potential Loss Facilities Exposed:	10	10
Lifeline Utilities Exposed:	5	5
Transportation Facilities Exposed:	79	105
Transportation Segments Exposed (miles):	110	123
Native American Tribal Land Exposed (acres):	8,100	28,300
Total Sensitive Plant Species Exposed:	35	36
Total Sensitive Animal Species Exposed:	64	64

Types of Flooding

Likely:	Present:
Alluvial Fan	Engineered Structure Failure
Debris Flow	
Flash	
Slow Rise	
Stormwater	

Hydrologic Regions

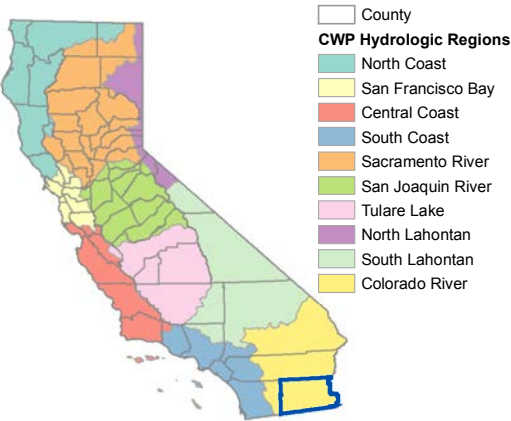


Figure D-25
Summary of Available Flood Types,
Flood History and Flood Hazard Exposure,
Imperial County.



September 2013

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DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Imperial County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:
Imperial County
Imperial Irrigation District

Planned Projects:
Number of Local Projects: 4
Estimated Cost of Local Projects: \$12 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-26
Summary of Available Flood Infrastructure
Information, Imperial County

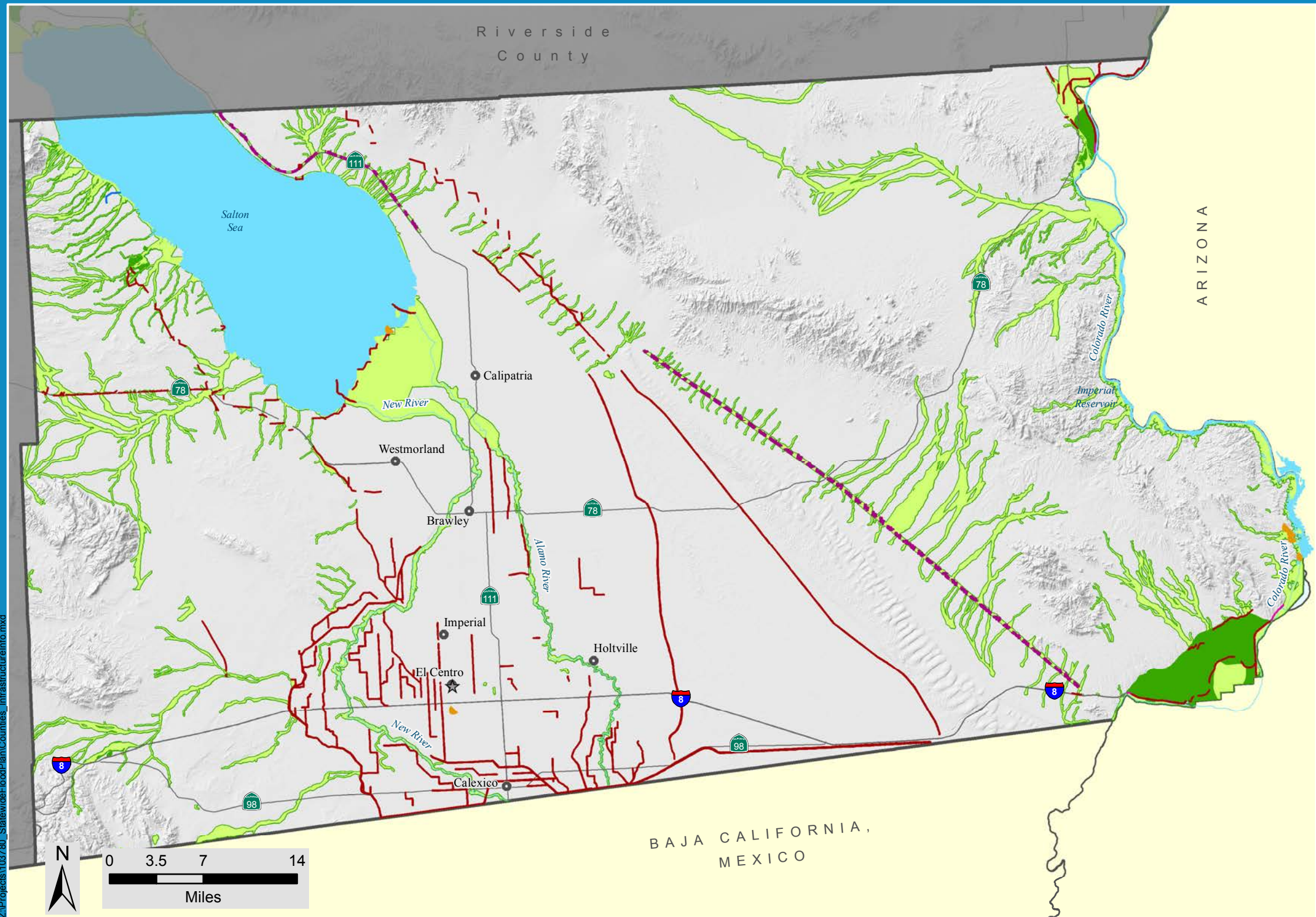
September 2013



US Army Corps
of Engineers.



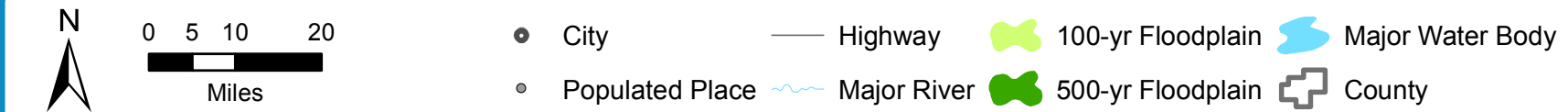
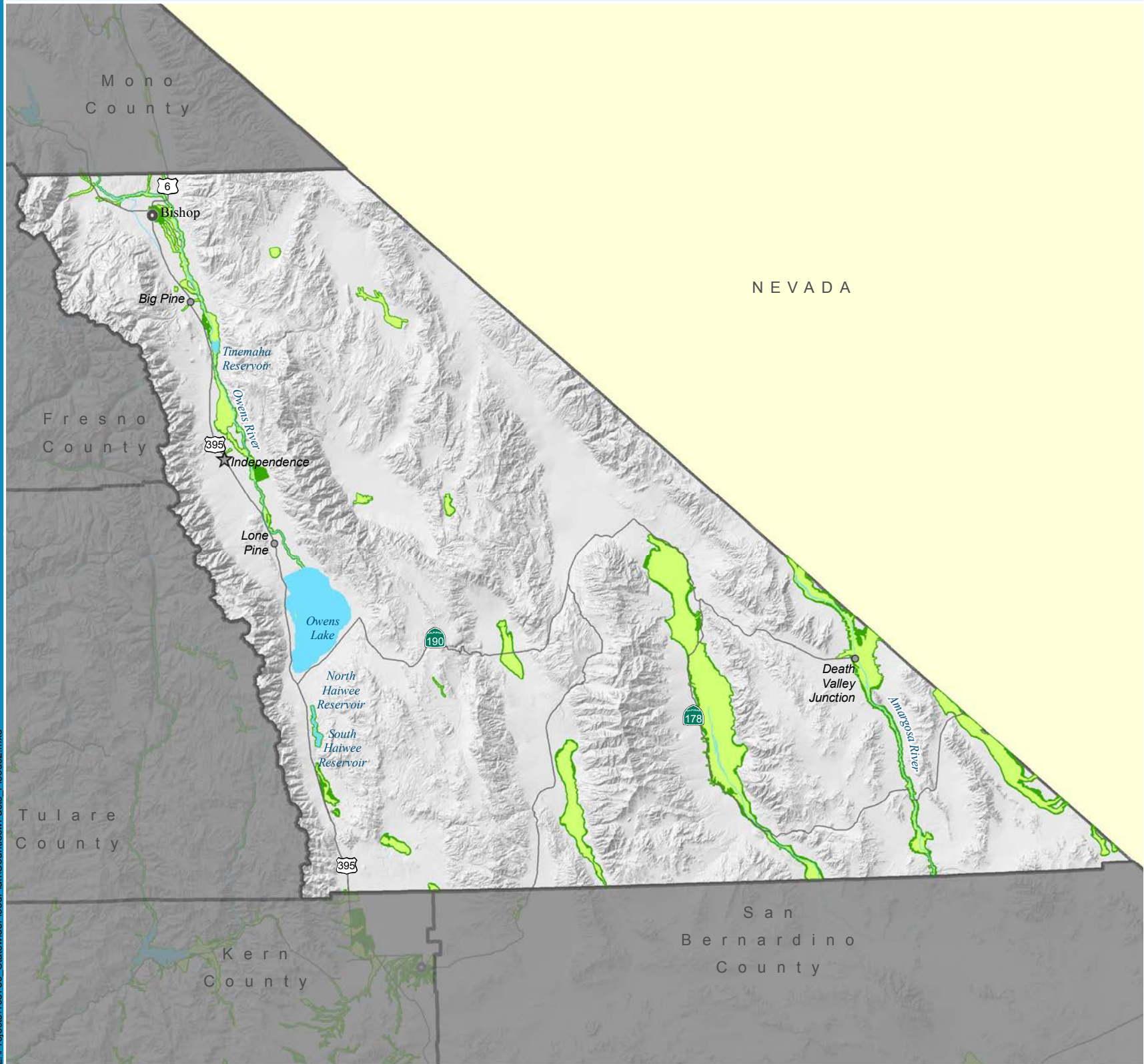
STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:**
- City
 - Populated Place
 - DWR Local Agency Dam
 - DWR Other Dam
 - NFHL Dam or Weir
 - CLD Local Agency Levee
 - CLD Other Levee
 - NFHL Levee
 - NFHL Flood Event Structure
 - NFHL Channel
 - NFHL Control Structure
 - NFHL Dike
 - NFHL Retaining Wall
 - Highway
 - Major River
 - Major Water Body
 - 100-yr Floodplain
 - 500-yr Floodplain
 - County

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1861-1862 Winter, The Great Flood
- 1867-1868 Winter
- 1890 January
- 1907 March 18-19
- 1914 January
- 1943 January 23
- 1945 October
- 1950 Fall
- 1955-1956 Winter, 1955 Christmas Flood
- 1966-1967 Winter
- 1969 Winter 1969 Storms
- 1976 September, Tropical Storm Kathleen
- 1978 September
- 1982 September
- 1983 Spring
- 1985 July 20
- 1989 Summer
- 2004 August 15
- 2008 Summer
- 2010-2011 December 2010 Winter Storm Event

Flood Hazard Exposure

County Statistics	
Total Acreage:	6.5 million
Total Population:	17,900
Total Structures:	10,300
Total Depreciated Replacement Value of Structures and Contents:	\$1.6 billion
Total Crop Acreage:	11,200
Total Value of Crops:	\$1.2 million

Summary of Exposure to Flood Hazard Reported by County		100-yr Event	500-yr Event
Area Exposed (acres):	319,200	368,800	
Percent of Area Exposed:	5%	6%	
Population Exposed:	200	500	
Percent of Population Exposed:	1%	3%	
Structures Exposed:	200	400	
Depreciated Replacement Value of Structures and Contents Exposed:	\$16.6 million	\$47.0 million	
Crops Exposed (acres):	200	400	
Value of Crops Exposed:	\$12,900	\$14,300	
Department of Defense Facilities Exposed:	1	1	
Essential Facilities Exposed:	0	1	
High Potential Loss Facilities Exposed:	3	3	
Lifeline Utilities Exposed:	0	0	
Transportation Facilities Exposed:	8	9	
Transportation Segments Exposed (miles):	30	39	
Native American Tribal Land Exposed (acres):	3	10	
Total Sensitive Plant Species Exposed:	53	55	
Total Sensitive Animal Species Exposed:	59	59	

Types of Flooding

- Likely:

 - Alluvial Fan
 - Debris Flow
 - Flash Stormwater
- Present:

 - Engineered Structure Failure
 - Slow Rise

Hydrologic Regions

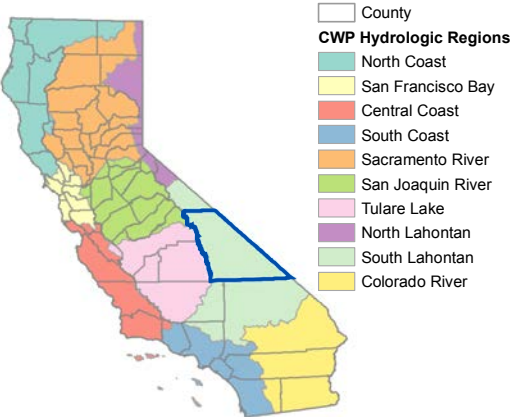


Figure D-27
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Inyo County.

US Army Corps of Engineers

STATE OF CALIFORNIA

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

September 2013

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Inyo County

Flood Infrastructure GIS Data Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

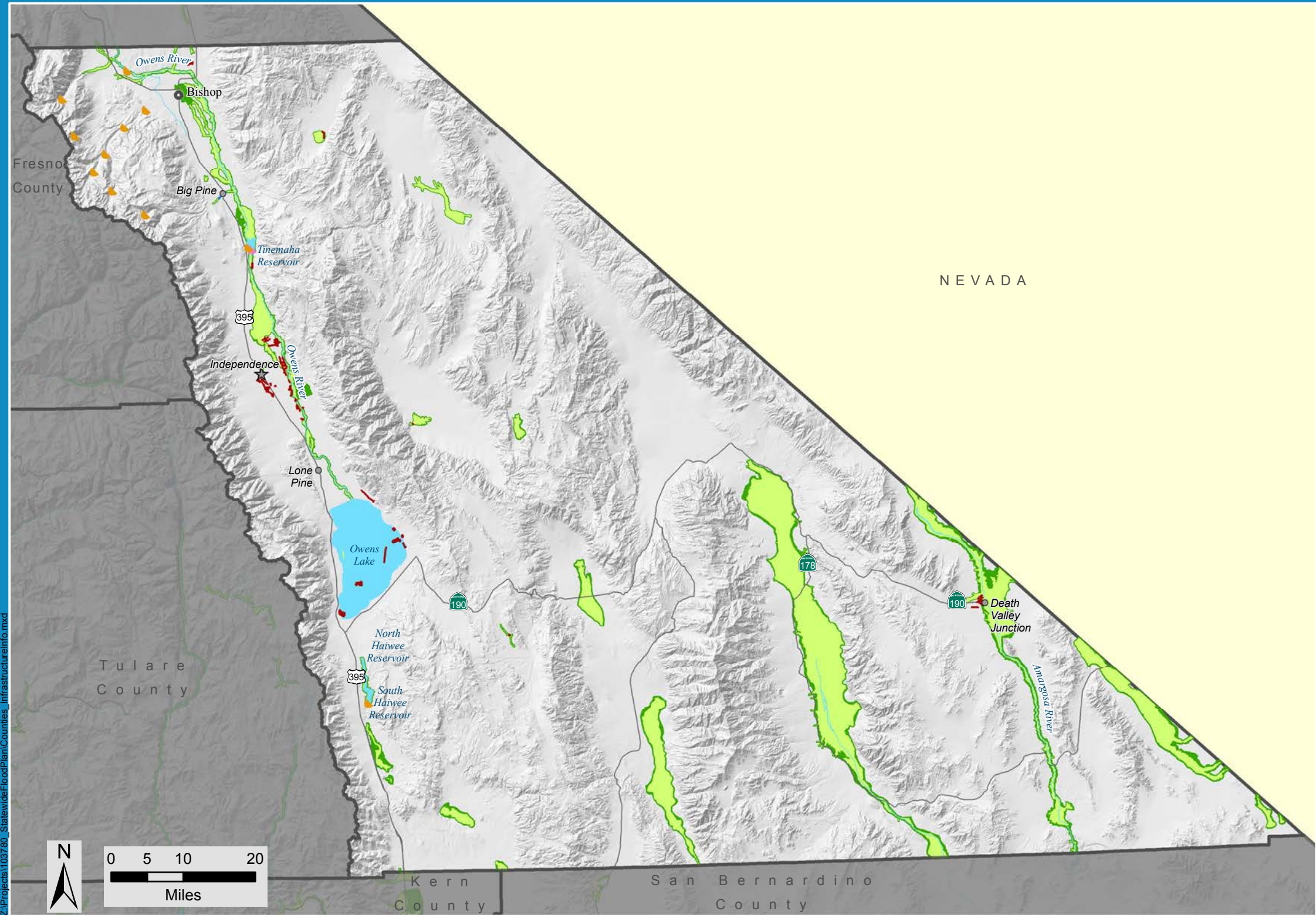
Agencies Contacted as Part of SFMP:
Inyo County

Planned Projects:
Number of Local Projects: 4
Estimated Cost of Local Projects: \$1.3 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-28
Summary of Available Flood Infrastructure Information, Inyo County

September 2013



Statewide GIS Data:

City

Populated Place

DWR Local Agency Dam

DWR Other Dam

NFHL Dam or Weir

CLD Pump Station

CLD Local Agency Levee

CLD Other Levee

NFHL Levee

NFHL Flood Event Structure

NFHL Channel

NFHL Control Structure

NFHL Dike

NFHL Retaining Wall

Highway

Major River

Major Water Body

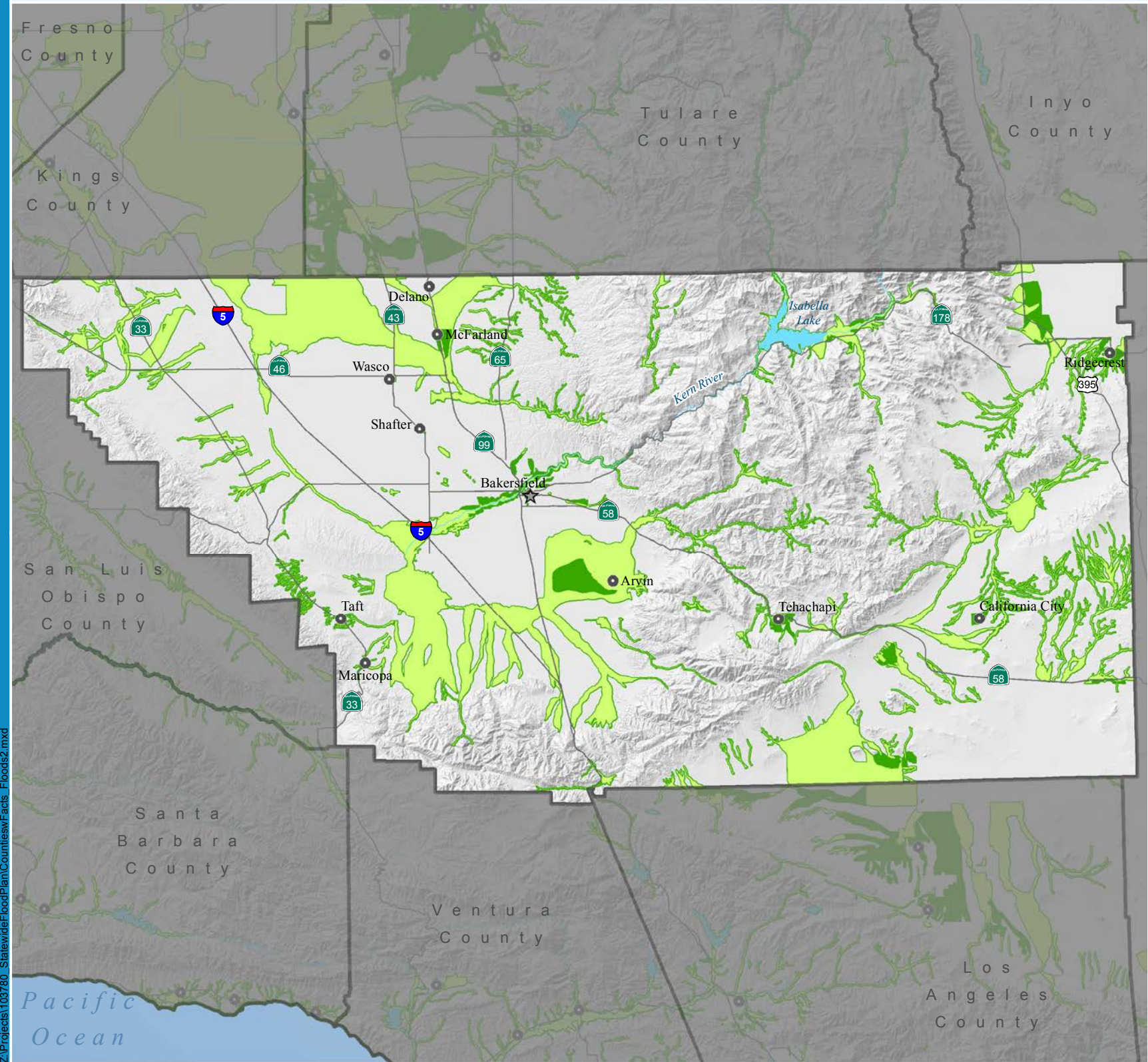
100-yr Floodplain

500-yr Floodplain

County

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1805
- 1861-1862 Winter, The Great Flood
- 1867-1868 Winter
- 1906 Winter/Spring
- 1938 Winter, Great Flood
- 1950 Winter
- 1955-1956 Winter, 1955 Christmas Flood
- 1968-1969 Winter 1968-1969 Storms
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1995 Winter
- 1997 Winter, January 1997 Floods
- 1998 Winter/Spring, El Niño Floods
- 2004-2005 Winter Storms
- 2005-2006 Winter/Spring
- 2008 Summer
- 2010 January 2010 Winter Storm Event
- 2010-2011 December 2010 Winter Storm Event
- 2011 January 26
- 2011 July 15

Flood Hazard Exposure

County Statistics

Total Acreage:	5.2 million
Total Population:	661,600
Total Structures:	235,300
Total Depreciated Replacement Value of Structures and Contents:	\$46.7 billion
Total Crop Acreage:	984,300
Total Value of Crops:	\$2.3 billion

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Area Exposed (acres):	557,300	607,700
Percent of Area Exposed:	11%	12%
Population Exposed:	46,200	100,100
Percent of Population Exposed:	7%	15%
Structures Exposed:	15,700	37,500
Depreciated Replacement Value of Structures and Contents Exposed:	\$2.5 billion	\$6.9 billion
Crops Exposed (acres):	240,400	257,100
Value of Crops Exposed:	\$503.8 million	\$537.4 million
Department of Defense Facilities Exposed:	5	5
Essential Facilities Exposed:	18	55
High Potential Loss Facilities Exposed:	16	19
Lifeline Utilities Exposed:	4	6
Transportation Facilities Exposed:	122	155
Transportation Segments Exposed (miles):	244	302
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	55	56
Total Sensitive Animal Species Exposed:	74	74

Kern County

Types of Flooding

- Likely:

 - Alluvial Fan
 - Debris Flow
 - Flash
 - Slow Rise
 - Stormwater
- Present:

 - Engineered Structure Failure

Hydrologic Regions

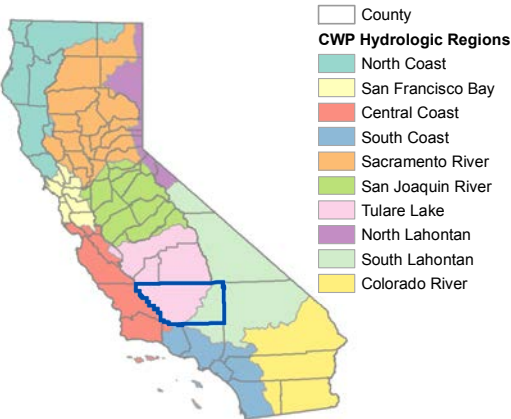


Figure D-29
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Kern County.

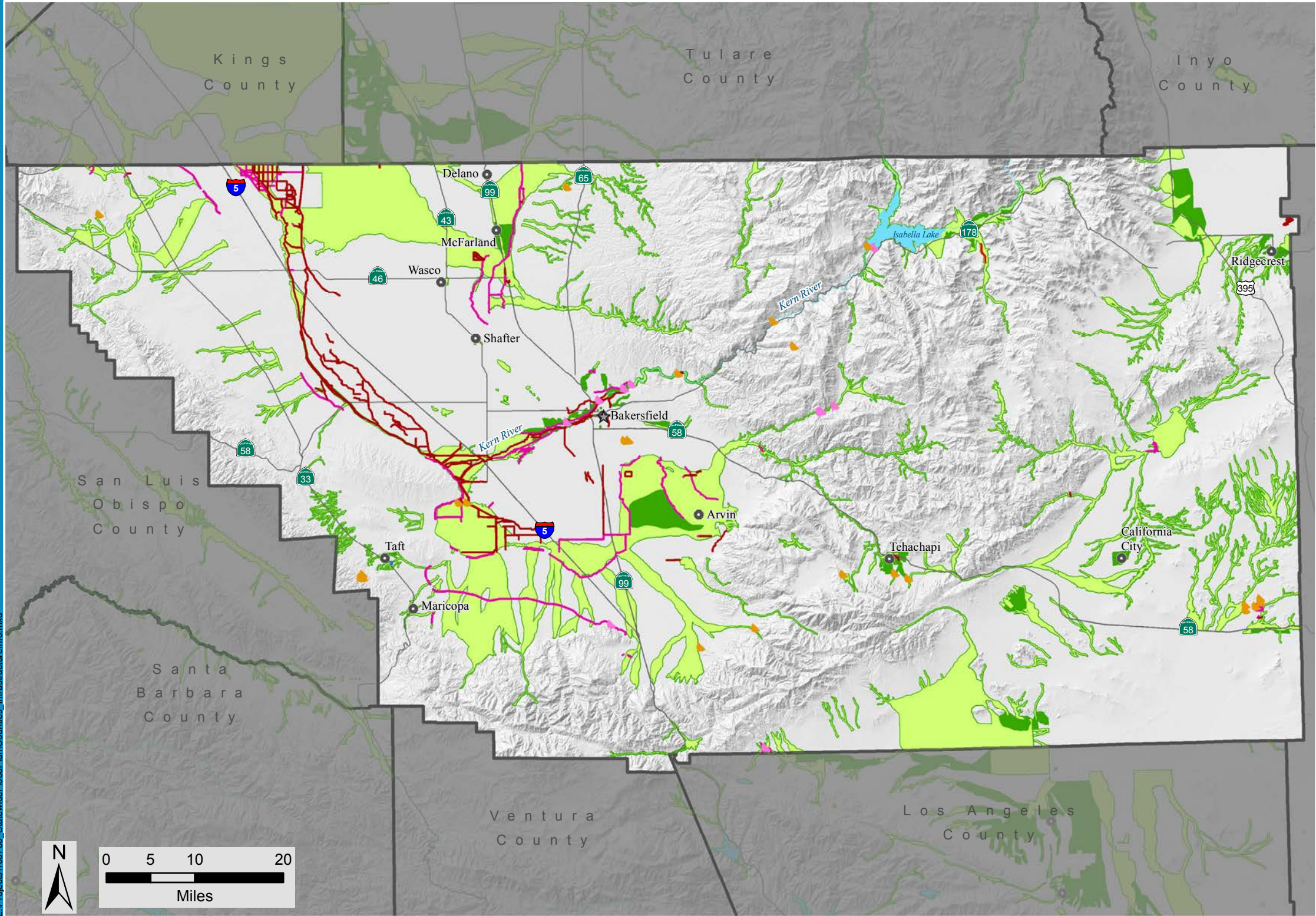


September 2013

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Kern County



Flood Infrastructure GIS Data
Received from Agencies Contacted:

Levee

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

City of Bakersfield
County of Kern
Indian Wells Valley Watershed Coordinator/Eastern
Kern County Resource Conservation District
Kern County Water Agency
Kern Delta Water District
North Kern Water Storage District
Semitropic Water Storage District

Planned Projects:

Number of Local Projects: 15
Estimated Cost of Local Projects: \$111.6 million
Number of USACE Projects: 2
Estimated Cost of USACE Projects: \$504 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-30
Summary of Available Flood Infrastructure
Information, Kern County

September 2013



US Army Corps
of Engineers.



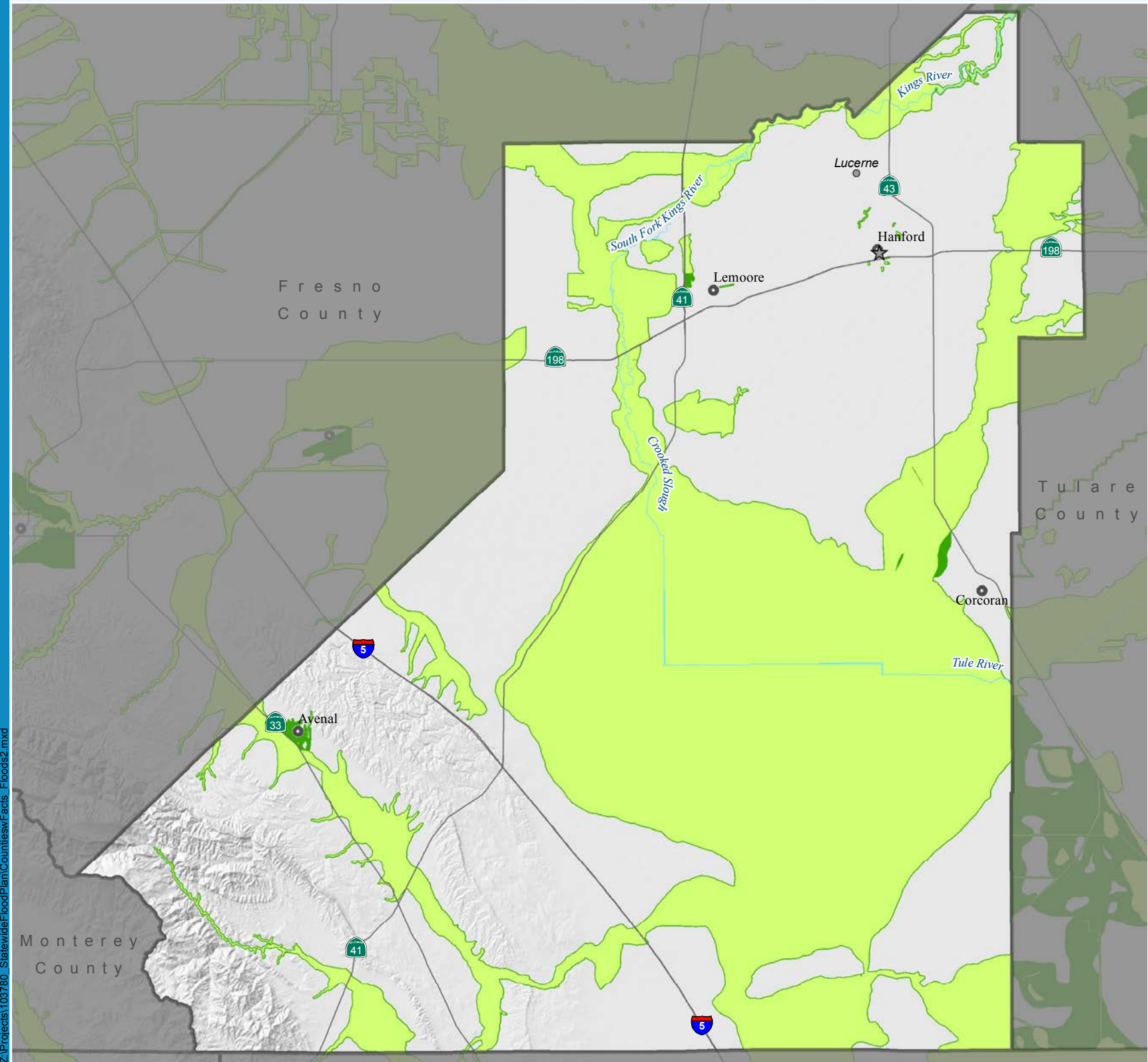
STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:**
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



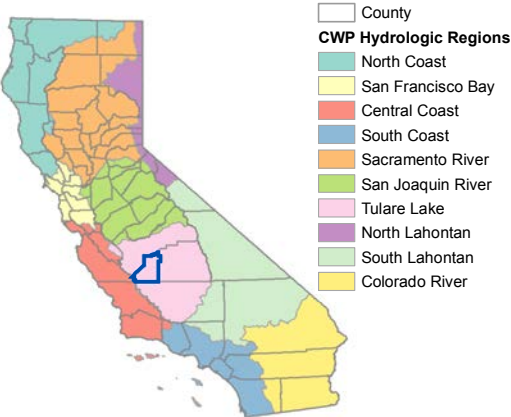
Selected Flood Events by Event Year

- 1825-1826
- 1861-1862 Winter, The Great Flood
- 1867-1868 Winter
- 1950 Winter
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Spring
- 1964-1965 Winter, Christmas 1964 Disaster
- 1966-1967 Winter
- 1968-1969 Winter 1968-1969 Storms
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1991-1992 Winter Storms
- 1993 January 9, 13, Late Winter Storms
- 1995 Winter Storms
- 1997 January 1997 Floods
- 1998 Winter/Spring, El Niño Floods
- 2005 April 28, Parlier Flood
- 2006 Spring Storms
- 2008 January 5-14, 2008 Winter Storms
- 2010-2011 December 2010 Winter Storm Event

Types of Flooding

- | | |
|----------------|------------------------------|
| Likely: | Present: |
| Flash | Debris Flow |
| Slow Rise | Engineered Structure Failure |
| Stormwater | |

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	890,800
Total Population:	129,500
Total Structures:	36,700
Total Depreciated Replacement Value of Structures and Contents:	\$8.0 billion
Total Crop Acreage:	568,700
Total Value of Crops:	\$1.1 billion

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Area Exposed (acres):	343,600	344,900
Percent of Area Exposed:	39%	39%
Population Exposed:	9,200	21,400
Percent of Population Exposed:	7%	17%
Structures Exposed:	1,000	2,700
Depreciated Replacement Value of Structures and Contents Exposed:	\$325.8 million	\$636.3 million
Crops Exposed (acres):	275,400	276,100
Value of Crops Exposed:	\$477.0 million	\$4478.2 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	0	3
High Potential Loss Facilities Exposed:	5	5
Lifeline Utilities Exposed:	2	2
Transportation Facilities Exposed:	54	55
Transportation Segments Exposed (miles):	74	77
Native American Tribal Land Exposed (acres):	100	100
Total Sensitive Plant Species Exposed:	8	8
Total Sensitive Animal Species Exposed:	23	23

Figure D-31
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Kings County.

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Kings County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
Levee
Channel

Agencies Contacted as Part of SFMP:
Kings County
Kings River Conservation District

Planned Projects:
Number of Local Projects: 5
Estimated Cost of Local Projects: \$14.8 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-32
Summary of Available Flood Infrastructure
Information, Kings County

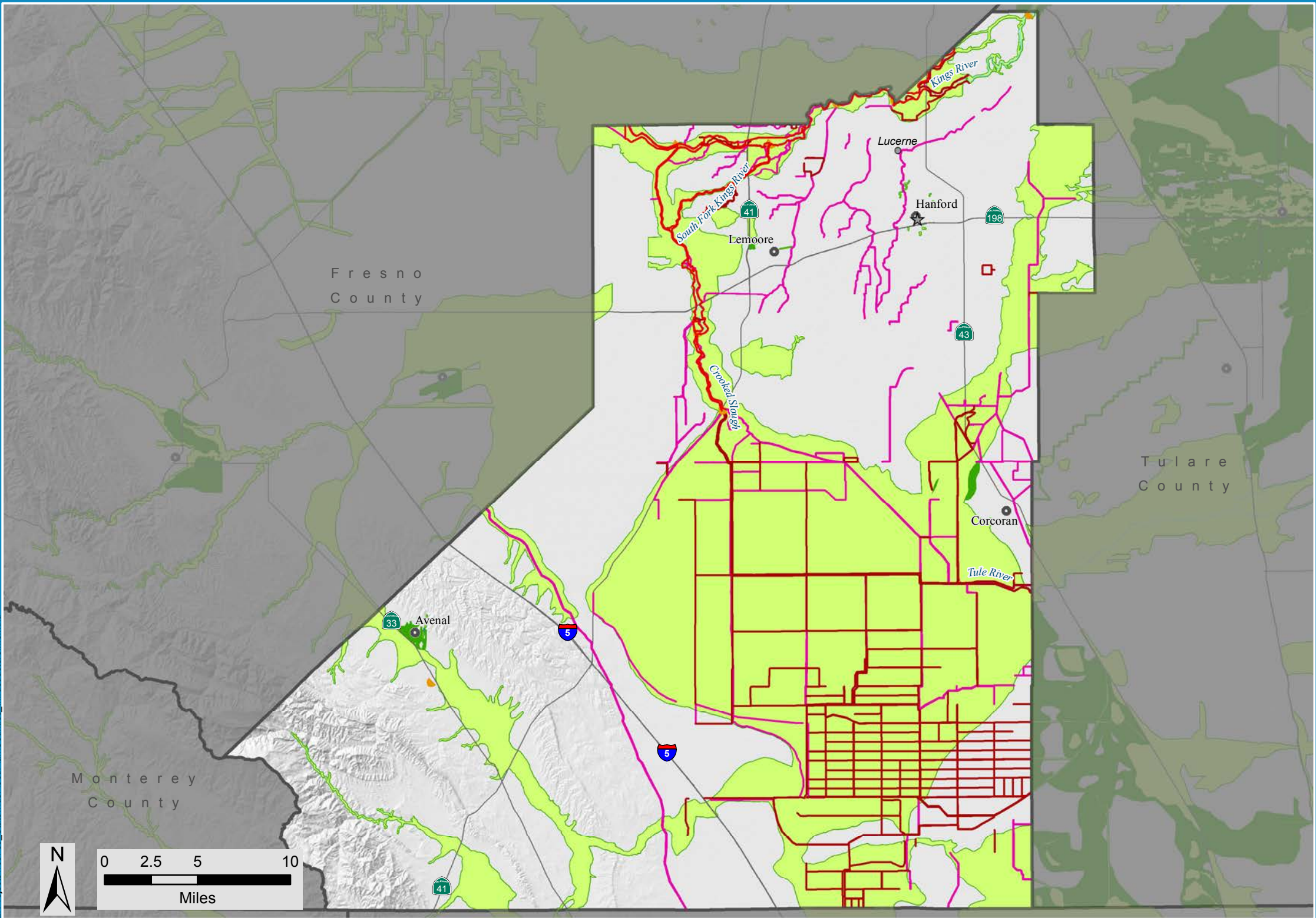
September 2013



US Army Corps
of Engineers.



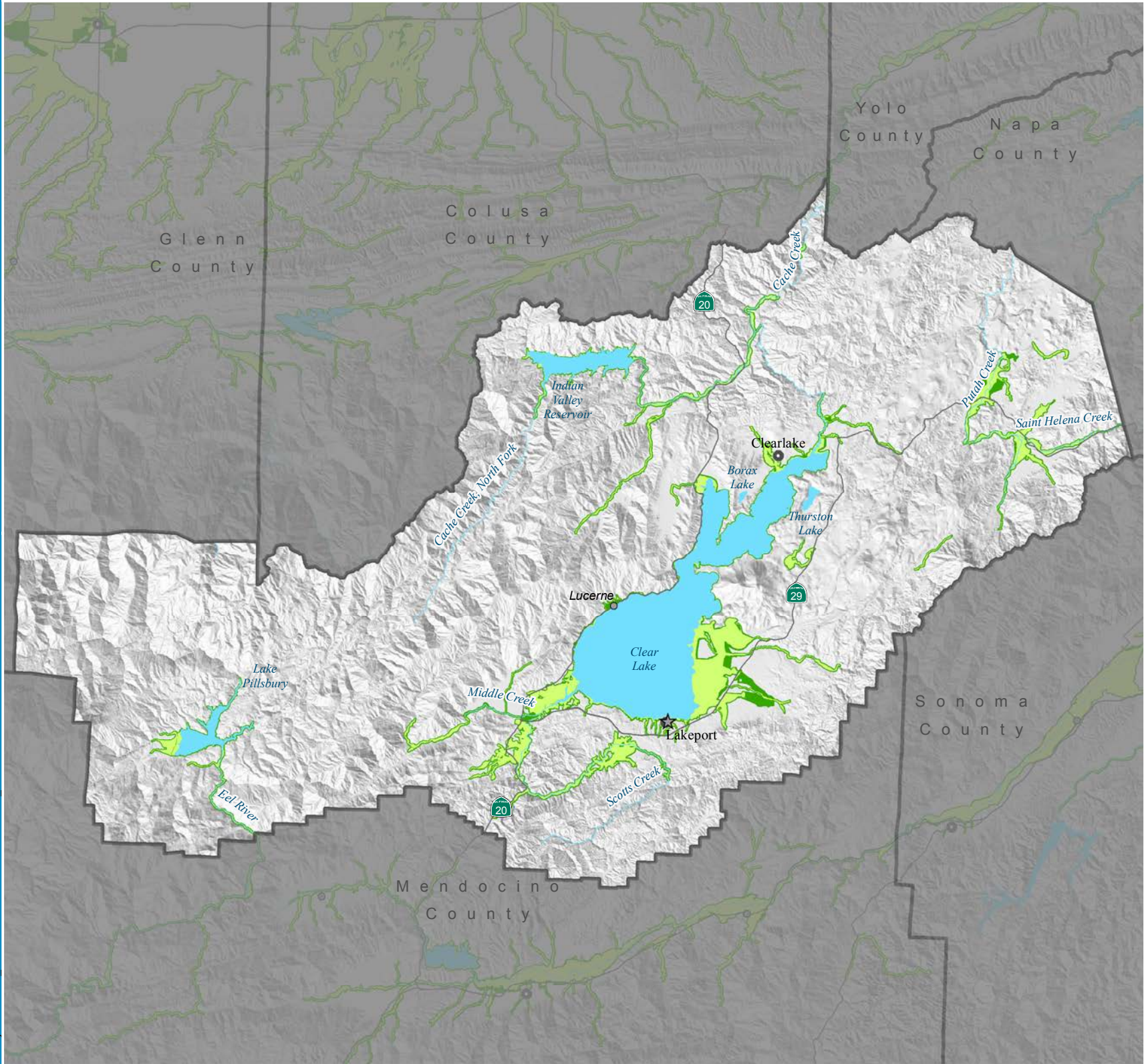
STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:**
- | | | | | | | |
|-------------------|------------------------|--------------------------|------------------------------|--------------------------|--------------------|-------------------|
| ● City | ● DWR Local Agency Dam | PS CLD Pump Station | — NFHL Levee | — NFHL Control Structure | — Highway | 100-yr Floodplain |
| ● Populated Place | ● DWR Other Dam | — CLD Local Agency Levee | — NFHL Flood Event Structure | — NFHL Dike | — Major River | 500-yr Floodplain |
| | ● NFHL Dam or Weir | — CLD Other Levee | — NFHL Channel | — NFHL Retaining Wall | — Major Water Body | County |

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



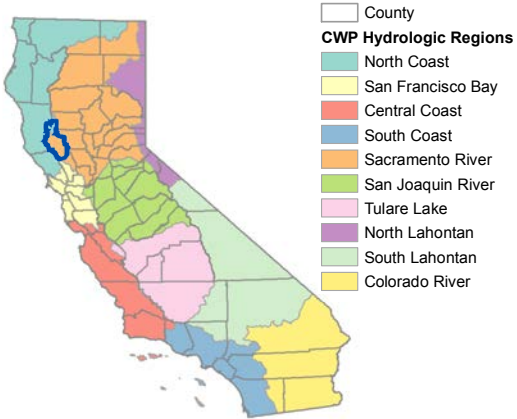
Selected Flood Events by Event Year

- 1861-1862 Winter, The Great Flood
- 1904 Winter
- 1907 Winter
- 1909 Winter
- 1937-1938 Winter, Great Flood
- 1955-1956 Winter, 1955 Christmas Flood
- 1958 Winter/Spring
- 1962 October
- 1964-1965 Winter, Christmas 1964 Disaster
- 1966-1967 Winter
- 1968-1969 Winter 1968-1969 Storms
- 1969-1970 Winter/Spring, Northern California Flooding
- 1974 Winter/Spring, 1974 Flood
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1995 Winter Storms
- 1996-1997 Winter, January 1997 Floods
- 1998 Winter, El Niño Floods
- 2002 Winter, El Niño Floods
- 2005-5006 Winter, New Year's Eve Flood of 2006

Types of Flooding

- | Likely: | Present: |
|------------|------------------------------|
| Slow Rise | Debris Flow |
| Stormwater | Engineered Structure Failure |
| | Flash |

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	850,800
Total Population:	58,300
Total Structures:	35,800
Total Depreciated Replacement Value of Structures and Contents:	\$5.6 billion
Total Crop Acreage:	28,500
Total Value of Crops:	\$84.1 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Area Exposed (acres):	69,700	72,300
Percent of Area Exposed:	8%	8%
Population Exposed:	9,700	12,000
Percent of Population Exposed:	17%	21%
Structures Exposed:	6,400	7,800
Depreciated Replacement Value of Structures and Contents Exposed:	\$919.3 million	\$1.1 billion
Crops Exposed (acres):	7,200	8,500
Value of Crops Exposed:	\$22.0 million	\$28.1 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	11	12
High Potential Loss Facilities Exposed:	1	1
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	36	39
Transportation Segments Exposed (miles):	23	26
Native American Tribal Land Exposed (acres):	60	60
Total Sensitive Plant Species Exposed:	35	35
Total Sensitive Animal Species Exposed:	24	24

Figure D-33
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Lake County.

September 2013



DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Lake County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

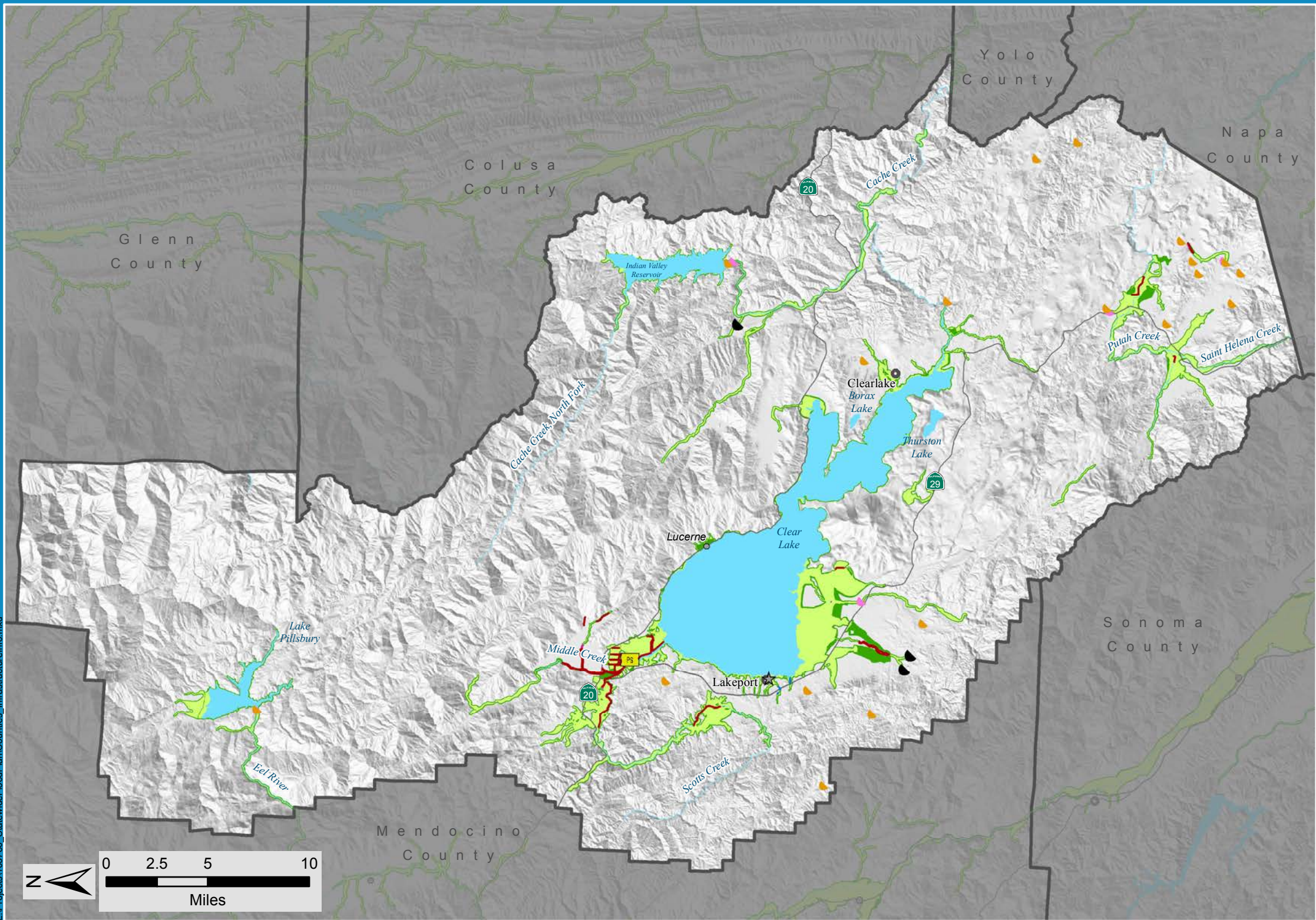
Agencies Contacted as Part of SFMP:
Lake County Watershed Protection District

Planned Projects:
Number of Local Projects: 2
Estimated Cost of Local Projects: \$48 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-34
Summary of Available Flood Infrastructure
Information, Lake County

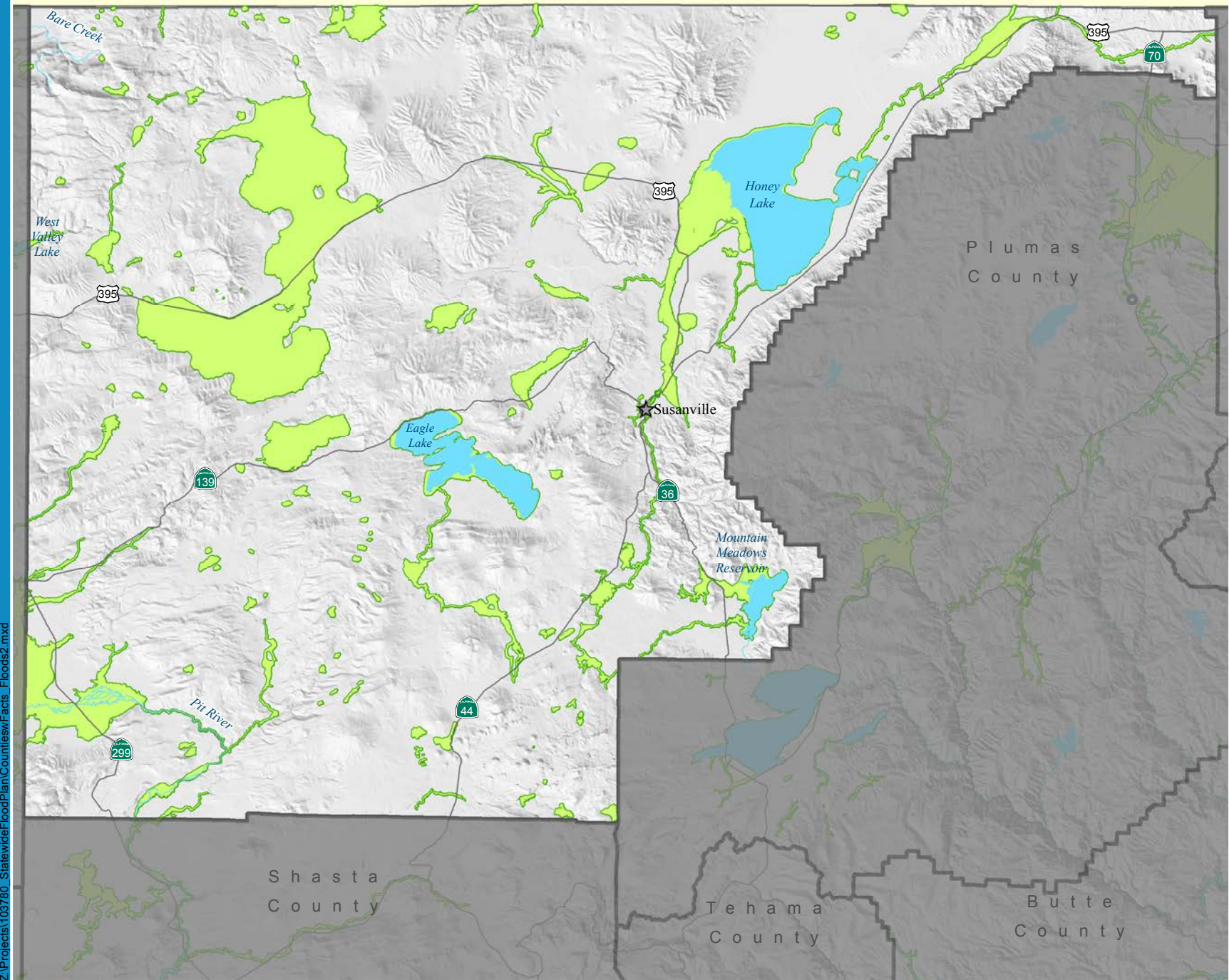
September 2013



- Statewide GIS Data:
- City
 - Populated Place
 - DWR Local Agency Dam
 - DWR Other Dam
 - NFHL Dam or Weir
 - CLD Pump Station
 - CLD Local Agency Levee
 - CLD Other Levee
 - NFHL Levee
 - NFHL Flood Event Structure
 - NFHL Channel
 - NFHL Control Structure
 - NFHL Dike
 - NFHL Retaining Wall
 - Highway
 - Major River
 - Major Water Body
 - 100-yr Floodplain
 - 500-yr Floodplain
 - County

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1861-1862 Winter, The Great Flood
- 1904 Winter
- 1907 Winter
- 1909 Winter
- 1937-1938 Winter, Great Flood
- 1962 October
- 1962-1963 Winter
- 1964 December 18
- 1964-1965 Winter, Christmas 1964 Disaster
- 1966-1967 Winter/Spring
- 1968-1969 Winter 1968-1969 Storms
- 1970 Winter/Spring, Northern California Flooding
- 1974 Winter/Spring, 1974 Flood
- 1982-1983 Winter/Spring, Winter Storms
- 1986 February, St. Valentine's Day Storm
- 1992 Winter Storms
- 1995 Severe Winter Storms
- 1997 Winter, January 1997 Floods
- 2006 Spring Storms

Flood Hazard Exposure

County Statistics	
Total Acreage:	3.0 million
Total Population:	33,800
Total Structures:	13,700
Total Depreciated Replacement Value of Structures and Contents:	\$2.2 billion
Total Crop Acreage:	121,400
Total Value of Crops:	\$64.9 million

Summary of Exposure to Flood Hazard Reported by County		100-yr Event	500-yr Event
Area Exposed (acres):		355,800	356,000
Percent of Area Exposed:		12%	12%
Population Exposed:		1,700	1,900
Percent of Population Exposed:		5%	6%
Structures Exposed:		1,100	1,200
Depreciated Replacement Value of Structures and Contents Exposed:	\$145.0 million	\$158.9 million	
Crops Exposed (acres):	54,500	54,600	
Value of Crops Exposed:	\$11.7 million	\$11.7 million	
Department of Defense Facilities Exposed:	1	1	
Essential Facilities Exposed:	8	8	
High Potential Loss Facilities Exposed:	15	15	
Lifeline Utilities Exposed:	1	1	
Transportation Facilities Exposed:	63	65	
Transportation Segments Exposed (miles):	75	75	
Native American Tribal Land Exposed (acres):	9	9	
Total Sensitive Plant Species Exposed:	62	62	
Total Sensitive Animal Species Exposed:	39	39	

Types of Flooding

Likely:	Present:
Flash	Alluvial Fan
Slow Rise	Debris Flow
Stormwater	Engineered Structure Failure

Hydrologic Regions

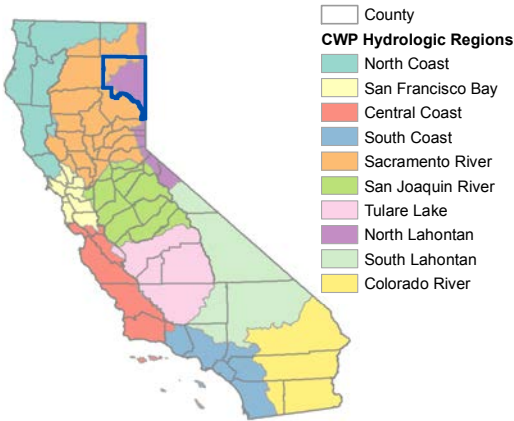


Figure D-35
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Lassen County.



DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Summary of Available Flood Infrastructure Information

Lassen County

Flood Infrastructure GIS Data
Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood
Infrastructure Data Received from
Agencies Contacted (Not Shown On Map):
No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:
Lassen County
City of Susanville
Susanville Rancheria

Planned Projects:
Number of Local Projects: 16
Estimated Cost of Local Projects: \$8.4 million
Number of USACE Projects: 0
Estimated Cost of USACE Projects: none

Statewide GIS Data Sources:
Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 17-00, 2000. CLD layers are from California Levee Database, v2.2 r2, 2010. NFHL layers are from the National Flood Hazard Layer, FEMA, August 2011. Highways from TeleAtlas, 2004. Rivers and Lakes modified from DFG, N/A. Floodplains compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Figure D-36
Summary of Available Flood Infrastructure
Information, Lassen County

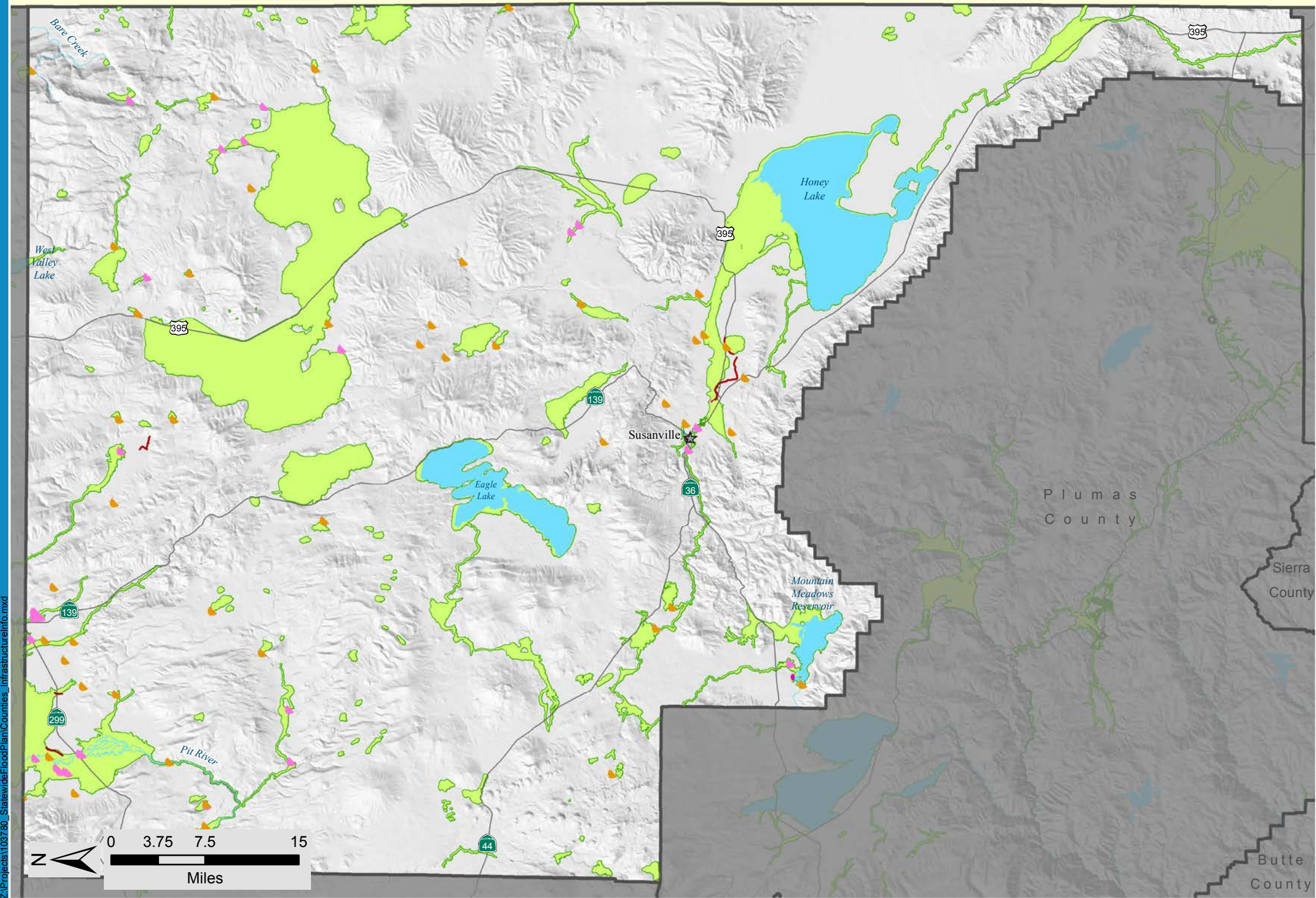
September 2013



US Army Corps
of Engineers.



STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



- Statewide GIS Data:**
- | | | | | | | |
|-----------------|----------------------|------------------------|----------------------------|------------------------|------------------|-------------------|
| City | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| Populated Place | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

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